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Census of Mineral Industries

MIC82-I-10C

INDUSTRY SERIES

Bauxite, Ferroalloy Ores, Metal Mining Services, and Miscellaneous Metal Ores

Industries 1051, 1061, 1081, 1092, 1094, and 1099



The publications
from the 1982 Economic and
Agriculture Censuses are dedicated
to the memory of Shirley Kallek,
Associate Director for Economic Fields.
During her career at the Bureau of the
Census (1955 to 1983), she continually
directed efforts to improve
the timeliness and accuracy of
economic statistics.

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Issued February 1985



U.S. Department of Commerce

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Clarence J. Brown, Deputy Secretary
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INTRODUCTION

	Page
ECONOMIC CENSUSES OVER TIME	III
USES OF THE ECONOMIC CENSUSES	III
AUTHORITY AND SCOPE OF THE ECONOMIC CENSUSES	IV
CENSUS OF MINERAL INDUSTRIES	IV
General	IV
Scope of Census and Definition of Mineral Industries	IV
Establishment Basis of Reporting	IV
Use of Administrative Records	V
Auxiliary Establishments	V
Industry Classification of Establishments	V
Value of Shipments for the Industry Compared With Value of Product Shipments	VI
CENSUS DISCLOSURE RULES	VI
MICROFICHE	VI
SPECIAL TABULATIONS	VI
ABBREVIATIONS AND SYMBOLS	VI

ECONOMIC CENSUSES OVER TIME

The early beginnings of America's industrial output were first measured in the United States in the 1810 Decennial Census and again in 1820, when questions on manufacturing were included with those for population. Beginning with the 1840 Decennial Census, there were enumerations of manufactures and mineral industries at 10-year intervals up to and including the year 1900 for manufactures and 1940 for mineral industries. The latter census was taken again for 1954, 1958, 1963, and 1967.

Because of the increasing dominance of manufacturing in the early 20th century, Congress directed that quinquennial censuses of manufactures be taken beginning in 1905. However, from 1919 through 1939, these censuses were conducted every 2 years. The need for war-related current surveys in the early 1940's postponed the next census of manufactures until 1948 (for 1947). That census was again taken for 1954, 1958, 1963, and 1967.

Retail and wholesale trade data were first collected in 1930, and in 1933 information on selected service industries was added to the data-collection operation. These business censuses, as they were called, were again taken for 1935, 1939 (as part of the 1940 decennial program), 1948, 1954, 1958, 1963, and 1967.

Information on construction industries was first obtained in 1930 and again for 1935 and 1939. Data for the full spectrum of construction industries were not gathered again until 1968 (for 1967).

The need for transportation data to supplement information available from existing governmental or private sources was recognized by Congress in the late 1950's and early 1960's. The census of transportation (consisting of several surveys) was first taken for 1963 and again for 1967.

Since 1967, all of the above censuses have been taken quinquennially as part of the Census Bureau's economic census program. (For the 1977 censuses, the coverage of the service

industries was broadened from "selected services" to all services, except religious organizations and private households. A total of 41 additional four-digit standard industrial classifications¹ (SIC's) in 7 SIC major groups was added to the scope of the census. While most of the industries included for the first time for 1977 were covered again for 1982, some were not, i.e., hospitals; elementary and secondary schools; colleges, universities, and professional schools; junior colleges and technical institutes; labor unions and similar labor organizations; and political organizations.)

The first manufacturing census for an outlying area was conducted in Puerto Rico for the year 1909. Thereafter, with the exception of 1929, a census was taken at 10-year intervals through 1949. The first censuses of retail trade, wholesale trade, and selected service industries in Puerto Rico were conducted for 1939. These censuses also were taken for the years 1949, 1954, 1958, 1963, and 1967. A census of construction industries was first introduced in Puerto Rico for 1967. These censuses of Puerto Rico have been taken since then for the years 1972, 1977, and 1982.

Censuses of manufactures, retail trade, wholesale trade, and selected service industries were conducted in Guam and the Virgin Islands of the United States for 1958, 1963, 1967, 1972, 1977, and 1982. Censuses of mineral industries were taken in the Virgin Islands of the United States for the years 1958, 1963, and 1967 but not since that time. A census of construction industries was also undertaken in these areas for 1972, 1977, and 1982.

Retail trade, wholesale trade, selected service industries, manufacturing, and construction industries were canvassed for the first time in the Northern Mariana Islands in 1983 (for 1982).

For 1982, the economic censuses and agriculture censuses were conducted concurrently.

USES OF THE ECONOMIC CENSUSES

The economic censuses are the major source for facts about the structure and functioning of the Nation's economy and provide essential information for government, business, industry, and the general public. They provide an important part of the framework for such composite measures as the gross national product, input-output measures, indexes of industrial production, and indexes measuring productivity and price levels. Information from the censuses is used to establish sampling frames and as benchmarks for current surveys of business activity, which are essential for measuring short-term economic conditions.

¹Standard Industrial Classification Manual: 1972. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Stock No.041-001-00066-6. 1977 Supplement. Stock No. 003-005-00176-0.

State and local governments use census data to assess business activities within their jurisdictions. The private sector uses the data to forecast general economic conditions; analyze sales performance; lay out sales territories; allocate funds for advertising; decide on locations for new plants, warehouses, or stores; and measure potential markets in terms of size, geographic areas, kinds of business, and kinds of products made or sold.

Following every census, thousands of businesses and other users purchase reports. Likewise, census facts are widely disseminated by trade associations, business journals, and newspapers. Volumes containing census statistics are available in most major public and college libraries. All 1982 data are available on microfiche from the U.S. Government Printing Office and most data on computer tape from the Census Bureau. Finally, the more than 50 State Data Centers also are suppliers of economic census statistics.

AUTHORITY AND SCOPE OF THE ECONOMIC CENSUSES

The economic censuses are required by law under title 13 of the United States Code, sections 131, 191, and 224, which directs that they be taken at 5-year intervals for the years ending in 2 and 7. The 1982 Economic Censuses covered manufacturing, mining, construction industries, retail trade, wholesale trade, service industries, and selected transportation activities. Special programs also cover minority-owned and women-owned businesses. The next economic censuses are scheduled to be taken in 1988 for the year 1987.

CENSUS OF MINERAL INDUSTRIES

General

The 1982 Census of Mineral Industries is the 19th census of mining establishments in the United States. For 1982, it was conducted jointly with the censuses of manufactures, construction industries, retail and wholesale trades, service industries, selected transportation activities, and minority-owned and women-owned businesses.

This report, from the 1982 Census of Mineral Industries, is one of a series of 12 industry reports, each of which provides statistics for individual industries or groups of related industries. Additional separate reports will be issued for each geographic division showing statistics by State and on special subjects, such as size of establishments, type of organization, assets, capital expenditures, type of operation, and fuels and electric energy consumed.

These separate reports subsequently will be issued as portions of the final census volume. The volume—Subject, Industry, and Area Statistics—will show comparative figures for industries and States on the more important measures of the activity of mining establishments, such as employment, payrolls, value of shipments and receipts, capital expenditures, value added by mining, selected supplies consumed, and energy used. It will include, besides the industry statistics, geographic area statistics (number of establishments, employment, payrolls, value added, cost of supplies, value of shipments and receipts, and capital expenditures) for each State and county, by industry group. The introduction to the final volume of the census of mineral industries will discuss, at greater length, many of the subjects

described in this introduction. For example, the volume text will discuss the economic significance of the mining sector, the relation of value added by mining to value added by manufacture, some of the changes in statistical concepts over the history of the census, and the valuation problems arising from intracompany transfers between mining establishments, manufacturing plants, and sales offices and sales branches of a company.

Scope of Census and Definition of Mineral Industries

The 1982 Census of Mineral Industries covers all establishments with one paid employee or more primarily engaged in mining as defined in the 1972 Standard Industrial Classification (SIC) Manual.¹ This is the system of industrial classification developed over a period of years by experts on classification in government and private industry under the guidance of the Office of Information and Regulatory Affairs, Office of Management and Budget. This system of classification is in general use among government agencies as well as organizations outside the government.

The SIC manual defines mining in the broad sense to include the extraction of minerals occurring naturally: Solids such as coal and ores, liquids such as crude petroleum, and gases such as natural gas. The term "mining" is used in the broad sense to include quarrying, well operation, milling (crushing, screening, washing, flotation, etc.) and other preparation needed to make minerals marketable. Exploration is included as is the development of mineral properties. Services performed on a contract, fee, or other basis in the exploration and development of mineral properties are classified separately but within this division.

Mining operations are classified by industry on the basis of the principal mineral produced or, if there is no production, on the basis of the principal mineral for which exploration or development work is in progress. The recovery of material from culm banks, ore dumps, and other waste minerals piles is classified in the appropriate mining industry according to the mineral product recovered.

The crushing, grinding, or other treatment of certain earths, rocks, and other nonmetallic minerals not in conjunction with mining activities are not included in this division but are classified as manufacturing. Hauling and other transportation beyond the mine property and contract hauling (except out of open pits in conjunction with mining) also are excluded.

Mining operations carried on as secondary activities at manufacturing establishments (such as clay pits at clay products plants or sand and gravel operations at ready-mixed concrete plants) are not within the scope of this census. However, selected data (production workers' wages and hours; total cost of supplies, fuels, electric energy, and contract work; and quantity of production for mined products) on such mining activities have been obtained in the 1982 Census of Manufactures and are included in the mining reports. They are clearly specified wherever included.

Establishment Basis of Reporting

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. A firm operating more than one establishment

¹Standard Industrial Classification Manual: 1972. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Stock No.041-001-00066-6. 1977 Supplement. Stock No. 003-005-00176-0.

is required to file a separate report for each location. A mineral establishment is defined as a single physical location where mineral operations are conducted.

For oil and gas field operations and for contract services, the basis for reporting is different from the "establishment" basis used for other types of mining. Firms operating oil and gas wells, drilling wells, or exploring for oil and gas for their own account were required to submit a separate report for each State or off-shore area adjacent to a State in which it conducted such activities and to include employment, production, and capital expenditures data at the county level. Firms that performed contract services for oil and gas field operations or for mining establishments were required to submit one report covering all such activities in the United States and to include information on receipts for services by State and county. These consolidated reports were then allocated to county establishments based on the data reported at the county level. The 1982 figures for establishments include the summation of operations within each county allocated from these State or nationwide reports and, therefore, are not comparable to prior censuses.

Establishments, as presented in this report, are those in operation "during the year." In the General Summary report (MIC82-S-1), a comparison will be made at the U.S. level of the number of establishments in operation "during the year" and at the "end of the year."

Use of Administrative Records

From a mailout universe of about 36,000 mining establishments, approximately 11,000 small single-establishment companies were not mailed a questionnaire. For these establishments, some employment, payroll, and receipts data were obtained from the administrative records of other agencies. Selection of the small establishment nonmail cases was done on an industry-by-industry basis, and a variable cutoff was used to determine those establishments for which administrative records were to be used in place of a census report. This information was then used in conjunction with industry averages and other information to estimate the statistics for administrative-record and nonresponse establishments. The first column in tables 2 and 4 provides an indication of the extent that these establishments account for the figures shown. The value of shipments and receipts and cost of supplies were generally not distributed among specific products and supplies for these establishments, but were included in the product and supply "not specified by kind" categories. Overall, establishments for which administrative-record data were used accounted for less than 2 percent of total value of shipments and receipts.

The industry classification codes included in the administrative-record files were used for those establishments excused from filing census forms. Generally, these codes were assigned on the basis of brief descriptions of the general activity of the establishment. Where the description is incomplete, or where there are relatively fine lines of demarcation among industries or between mining and nonmining activities, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product or activity information. Therefore, the total establishment count should be viewed as an approximate measure. The counts for establishments with 20 employees or more are far more reliable.

In the 1982 census, as in the 1977, 1972, and 1967 censuses, data for single-unit firms without paid employees were

excluded. This exclusion had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses if they reported more than \$500 in (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

Auxiliary Establishments

Statistics for employment and payroll for individual industries and industry groups also include employment and payroll figures for administrative offices, warehouses, storage facilities, and other auxiliary establishments servicing mining establishments. As in previous censuses, respondents were asked to file separate reports (Form ES-9200) for any separately operated auxiliary establishments. Classification of employment and payroll data at such auxiliary establishments was based on the mining establishments served.

Industry Classification of Establishments

Each of the establishments covered by the census was classified in one of 42 mineral industries in accordance with the industry definitions in the SIC system. Under this system of classification, an industry is generally defined as a group of establishments producing the same main product or closely related group of products. The resulting group of establishments must be significant in terms of its number, value added by mining, value of shipments and receipts, and number of employees. Application of these criteria led to formulation of 42 mining industries, to each of which a four-digit code number was assigned. The classification system also provides broader groups of industries, with twenty three-digit groups and five two-digit groups. Within industries, the system provides for seven-digit products and five-digit product classes. Products are considered primary to an industry if the first four digits of the product codes are the same as the industry code. Products whose first four code numbers differ from the industry code are called secondary products. To determine the industry classification of an establishment, the seven-digit products are grouped together according to the first four digits of the product code. The first four digits of the group of products with the largest value of production become the industry code for the establishment. (For mineral service industries, the classification is on the basis of receipts for services performed.)

In most industries, establishments making products falling into the same industry category use a variety of processes. Separate statistics are provided on the various types of operation. Whenever possible, separate figures are shown for establishments with mines only, mines with preparation plants, and preparation plants only. Separate figures are provided by type of mine (underground, open pit, and combination). Separate statistics also are provided on producing and nonproducing operations, an establishment being defined as nonproducing if no mineral products were shipped during the year.

Statistics also are usually provided on the production of minerals mined and used in the same establishment for producing prepared minerals or used at the producing establishment for fuel.

Differences in the integration of production processes and types of operation should be considered when relating the general items (employment, payrolls, value added, etc.) to the product and material data.

Value of Shipments for the Industry Compared With Value of Product Shipments

In census of mineral industries publications, value of shipments data are published for industries and products. Value of shipments and receipts data shown in tables 1 through 4 represent the total value of shipments and receipts of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in table 6 represents the total value of all products shipped that are classified as primary to an industry and includes those that were shipped by all mining establishments regardless of their industry classification. Value of product shipments also may include some products shipped from mining operations associated with manufacturing establishments.

CENSUS DISCLOSURE RULES

The Bureau of the Census is prohibited by Federal law from publishing any statistics that disclose information reported by individual companies. However, the number of companies classified in a specific industry is not considered a disclosure, so this item may be given even though other information is withheld.

The disclosure analysis for the industry statistics in tables 1-4 of this report is based on the total value of shipments and receipts and capital expenditures. Whenever the total value of shipments and receipts cannot be shown without disclosing information for individual companies, the complete line has been suppressed. If capital expenditures alone is a disclosure, only total capital expenditures and cost of supplies statistics are suppressed. However, the suppressed data are included in higher level totals.

MICROFICHE

All data in the final reports and volume are available on microfiche. Microfiche reports are sold by the Superintendent

of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

SPECIAL TABULATIONS

Public-use tapes are not available for 1982 Census of Mineral Industries data. However, special tabulations of data collected may be obtained on computer tape or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential information (such as name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications. Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief, Industry Division, Bureau of the Census, Washington, D.C. 20233.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in this publication:

- Represents zero.
- (D) Withheld to avoid disclosing data for individual companies.
- (N.A.) Not available.
- (S) Withheld because estimate did not meet publication standards on the basis of either the response rate or a consistency review.
- (X) Not applicable.
- (Z) Less than half the unit shown.
- n.e.c. Not elsewhere classified.
- n.s.k. Not specified by kind.
- r Revised.
- SIC Standard Industrial Classification.

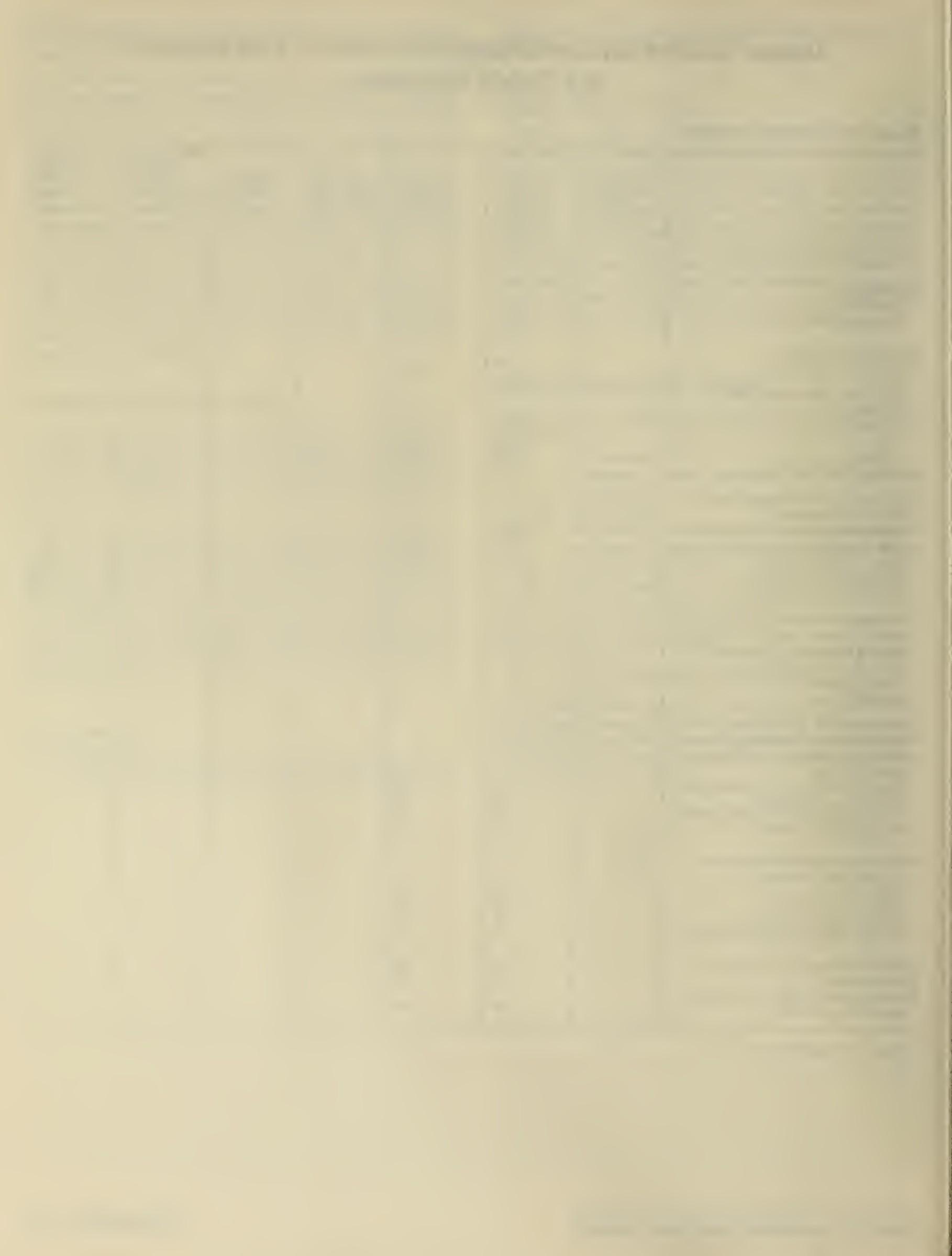
Other abbreviations, such as lb, gal, yd, and bbl, are used in the customary sense. Where the term "tons" only is used, it refers to short tons of 2,000 pounds; where the figures are expressed in tons of 2,240 pounds, the unit of measure is specified as "long tons" or "i. tons."

Users' Guide for Locating Statistics In This Report by Table Number

[For explanation of terms, see appendix]

Item	Industry and historical	Industry by State	Industry by type of operation	Industry by employ- ment size	Industry- product analysis	Detailed product shipments by State	Detailed supplies consumed by industry
Number of operating companies	1						
Establishments:							
Total number	1	2,3a	2,3b	4			
Employment size	1	2,3a	2,3b	4			
Employment and payroll:							
Number of employees	1	2,3a	2,3b	4			
Payroll	1	2,3a	2,3b	4			
Production, development, and exploration—							
Workers	1	2,13a	2,13b	4			
Hours	1	2,13a	2,13b	4			
Wages	1	2,3a	2,3b	4			
Supplemental labor costs		'3a	'3b				
Value added, cost of supplies, ship- ments, and inventories:							
Value added by mining	1	2,3a	2,3b	4			
Cost of supplies	1	2,3a	2,3b	4			17a
Resales, cost and value		3a	3b				
Purchased fuels consumed		3a	3b				17b
End-of-year fuels stocks							17b
Purchased electricity		'3a	'3b				
Cost of contract work		3a	3b				
Industry shipments and receipts . . .	1	2,3a	2,3b	4		15	
Value of net shipments	1					15	
Product shipments							
Inventories	3c						6
Gross book value of depreciable or depletable assets, beginning and end of year; depreciation and depletion charges for year:							
Buildings and structures, except land		3a	3b				
Machinery and equipment		3a	3b				
Mineral exploration and development		3a	3b				
Mineral land and rights		3a	3b				
New and used capital expenditures, excluding land and rights:							
Total	1	2,3a	2,3b	4			
Buildings and structures		3a	3b				
Machinery and equipment		3a	3b				
Mineral exploration and development		3a	3b				
Capitalized mineral land and rights . . .		3a	3b				
Rental payments		'3a	'3b				
Expensed mineral exploration, develop- ment, land, and rights		'3a	'3b				

^aDetailed information shown.



Bauxite, Ferroalloy Ores, Metal Mining Services, and Miscellaneous Metal Ores

CONTENTS

[Page numbers listed here omit the prefix that appears as part of the number of each page]

	Page
Introduction	III
Users' Guide in Locating Statistics in This Report by Table Number	VII
Description of Industries and Summary of Findings	2

TABLES

INDUSTRY STATISTICS

1. Historical Industry Statistics: 1982 and Earlier Census Years	4
2. Industry Statistics for Selected States and Type of Operation: 1982 and 1977	5
3a. Summary Statistics by Industry for Selected States: 1982	7
3b. Summary Statistics by Industry and Type of Operation: 1982	8
3c. Inventories by Industry: End of 1981 and 1982	9
4. Industry Statistics by Employment Size of Establishment: 1982	9

PRODUCT STATISTICS

5. Industry-Product Analysis—Summary of Industry Shipments and Receipts and Net Shipments of Primary Products: 1982 and 1977	10
6. Products or Services for Selected States: 1982 and 1977	11

MATERIAL STATISTICS

7a. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1982 and 1977	12
7b. Fuels Consumed by Type, 1982 and 1977, and End-of-Year Fuel Stocks, 1982	14

APPENDIX

Explanation of Terms	A-1
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Publication Program	Inside back cover
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DESCRIPTION OF INDUSTRIES AND SUMMARY OF FINDINGS

BAUXITE, FERROALLOY ORES, METAL MINING SERVICES, AND MISCELLANEOUS METAL ORES

This report shows 1982 Census of Mineral Industries statistics for establishments classified in each of the following industries:

SIC Code and Title

1051	Bauxite and Other Aluminum Ores
1061	Ferroalloy Ores, Except Vanadium
1081	Metal Mining Services
1092	Mercury Ores
1094	Uranium-Radium-Vanadium Ores
1099	Metal Ores, N.E.C.

Industry statistics (employment, payroll, value of shipments, cost of supplies, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also all secondary activities performed by the same establishments. This fact should be taken into account in comparing industry statistics (tables 1-4 and 7) with product statistics (table 6) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of net shipments of primary products of the industry produced as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry) were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. This information was used in conjunction with industry averages and other information to develop estimates for all statistics. The first column in tables 2 and 4 provides an indication of the extent that these establishments account for the figures shown.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.¹

All dollar figures shown in this report are in current dollars for the year specified and have not been adjusted for changes in price levels. Therefore, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

INDUSTRY 1051, BAUXITE AND OTHER ALUMINUM ORES

The industry includes establishments primarily engaged in mining, milling, or otherwise preparing bauxite and other aluminum ores. Also included are associated activities such as drying, calcining, activating, and sintering. The total value of shipments and receipts for the industry was \$30 million in 1982. The value added by mining was \$15 million. Total employment for the industry decreased to .3 thousand from .4 thousand in 1977. Value added per employee was \$50.0 thousand in 1982; in 1977, it was \$77.5 thousand.

There were no establishments for which administrative records were used because all establishments of single-unit companies in this industry were included in the mail portion of the census.

INDUSTRY 1061, FERROALLOY ORES, EXCEPT VANADIUM

The industry includes establishments primarily engaged in mining, milling, or otherwise preparing ferroalloy ores, except vanadium. Titanium ore, used sometimes for ferroalloying, but principally for other purposes, is classified in Industry 1099, Metal Ores, N.E.C. Mining of vanadium is classified in Industry 1094, Uranium-Radium-Vanadium Ores. The total value of shipments and receipts for the industry was \$206 million in 1982. The value added by mining was \$146 million. Total employment for the industry decreased to 4.7 thousand employees in 1982, from 6.4 thousand in 1977. Value added per employee was \$31.1 thousand in 1982; in 1977, it was \$39.9 thousand.

Establishments of single-unit companies in this industry with up to 8 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were imputed as described above. These establishments accounted for 9 percent of total value of shipments and receipts.

INDUSTRY 1081, METAL MINING SERVICES

The industry includes establishments primarily engaged in performing metal mining services for others on a contract, fee, or similar basis, such as the removal of overburden, strip mining for metallic ores, prospect and test drilling, and mine exploration and development. The total value of shipments and receipts for the industry was \$125 million in 1982. The value added by mining was \$90 million. Total employment for the industry decreased to 2.5 thousand employees in 1982, from 3.3 thousand in 1977. Value added per employee was \$36.0 thousand in 1982; in 1977, it was \$33.8 thousand.

Establishments of single-unit companies in this industry with up to 2 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were imputed as

¹Standard Industrial Classification Manual: 1972. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Stock No. 041-001-00066-8. 1977 Supplement. Stock No. 003-005-00176-0.

described above. These establishments accounted for 16 percent of total value of shipments and receipts.

INDUSTRY 1094, URANIUM-RADIUM-VANADIUM ORES

The industry includes establishments primarily engaged in mining, milling, or otherwise preparing uranium-radium-vanadium ores. The total value of shipments and receipts for the industry was \$775 million in 1982. The value added by mining was \$579 million. Total employment for the industry decreased to 10.5 thousand employees in 1982, from 12 thousand in 1977. Value added per employee was \$55.1 thousand in 1982; in 1977, it was \$36 thousand.

Establishments of single-unit companies in this industry with up to 9 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were imputed as described above. These establishments accounted for 12 percent of total value of shipments and receipts.

INDUSTRY 1092, MERCURY, AND INDUSTRY 1099, METAL ORES, N.E.C.

The mercury industry includes establishments primarily engaged in mining, milling, or otherwise preparing mercury ores. This industry includes the production of metallic mercury by furnacing or retorting at the mine site. The metal ores, n.e.c. industry includes establishments primarily engaged in mining, milling, or otherwise preparing miscellaneous metal ores, n.e.c. The total value of shipments and receipts for these industries was \$127 million in 1982. The value added by mining was \$93 million. Total employment for the industry increased to 1.8 thousand employees in 1982, from 1.5 thousand in 1977. Value added per employee was \$51.7 thousand in 1982; in 1977, it was \$47.2 thousand.

Establishments of single-unit companies in this industry with up to 2 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were imputed as described above. These establishments accounted for 40 percent of total value of shipments and receipts.

GEOGRAPHIC STATISTICS FOR SERVICE INDUSTRIES

Each company that supplied metal mining services was required to submit one report covering all such activities it performed in the United States. Each report contained an inquiry requesting, by State and county for 1982, the receipts for services performed for others. Industry statistics, by county, were completed for each company by allocating the reported totals on the basis of the reported "receipts for services" figures. These county figures were then used to develop industry statistics for States.

COMPARABILITY WITH BUREAU OF MINES STATISTICS

Bureau of the Census statistics on products for industries 1051, 1061, 1081, 1092, 1094, and 1099 are not entirely comparable with product statistics for the same industries published by the Bureau of Mines. The differences that occur result

primarily from differences in data collection methods, coverage, and objectives sought. For example:

1. The Bureau of Mines includes all establishments regardless of size. The Bureau of the Census excludes single-unit establishments with no paid employees. However, the contribution to products of such small operations are usually very small.
2. The Bureau of the Census obtains information on total production and shipments of crude ore and treated minerals from each establishment, including shipments of ores to treatment plants, usually in the same mining industry. The Bureau of the Census also calculates net shipments in order to provide an unduplicated measure of the product of a particular mining industry. In general, the Bureau of Mines presents statistics on products as marketable shipments to consumers.
3. The Bureau of the Census values of shipments statistics represent reported values f.o.b. mine or treatment plant. In some instances, the Bureau of Mines estimates value for a portion of the product on the basis of unit market values obtained from other sources.
4. The Bureau of the Census figures for treated products include products treated from foreign materials. The Bureau of Mines figures for treated products represent only products treated from domestic materials.
5. Differences exist in coverage by the two bureaus. For titanium concentrate production, for example, the Bureau of the Census includes, and the Bureau of Mines excludes, data from establishments which engage only in treating or grinding.

COMPARABILITY WITH ENERGY INFORMATION ADMINISTRATION STATISTICS

Since 1977, the Energy Information Administration has been responsible for compiling mining and milling statistics on the uranium industry. Bureau of the Census statistics on products for industry 1094, which includes uranium, are not entirely comparable with product statistics for the same industry published by the Energy Information Administration. The differences that occur result primarily from differences in data collection methods, coverage, and objectives sought. For example:

1. The Energy Information Administration includes all establishments regardless of size. The Bureau of the Census excludes single-unit establishments with no paid employees. However, the contributions to products of such small operations are usually very small.
2. The Bureau of the Census values of shipments represent reported values f.o.b. mine or treatment plant. Some Energy Information Administration values are based on quantity of production or shipments and quoted market prices.
3. The Energy Information Administration includes, but the Bureau of the Census excludes, data for establishments that produce and market uranium of foreign origin.

Table 1. Historical Industry Statistics: 1982 and Earlier Census Years

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix.]

Year	Companies (number)	Establishments during year		All employees		Production, development, and exploration workers			Value added by mining (million dollars)	Cost of supplies used, purchased machinery installed, etc. (million dollars)	Value of shipments and receipts (million dollars)	Value of net ship- ments and receipts ¹ (million dollars)	Quantity of primary products ²	Capital expendi- tures (million dollars)
		Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 1051, BAUXITE AND OTHER ALUMINUM ORES														
1982 ³	5	6	4	.3	9.3	.2	.4	5.7	15.4	19.5	29.5	(D)	(D)	5.4
1977 ⁴	7	12	6	.4	6.6	.3	.6	4.4	31.0	13.2	40.2	(D)	(D)	4.0
1972 ⁵	7	10	5	.5	4.4	.3	.8	2.6	24.0	7.7	28.1	(D)	(D)	3.6
1967 ⁶	(NA)	17	7	.6	4.1	.5	.6	2.9	22.5	6.7	28.6	(D)	(D)	.4
1963	10	17	4	.6	3.4	.4	.6	2.3	17.5	4.3	21.5	*20.5	\$1 476.0	.3
1958	12	29	9	.7	3.6	.5	.9	2.3	15.4	4.2	16.2	17.4	\$1 420.0	1.4
INDUSTRY 1061, FERROALLOY ORES, EXCEPT VANADIUM														
1982 ³	58	69	16	4.7	149.6	3.0	5.7	88.1	145.6	169.2	205.5	(D)	(D)	109.5
1977 ⁴	41	58	17	6.4	107.1	5.0	9.7	79.1	255.6	224.9	371.7	(D)	(D)	108.6
1972 ⁵	32	44	15	3.6	40.2	2.6	5.4	28.7	136.7	63.6	164.3	(D)	(D)	36.2
1967 ⁶	(NA)	43	11	4.0	31.9	3.1	6.2	23.0	73.5	47.5	108.3	(D)	(D)	12.6
1963	48	58	11	3.1	20.4	2.6	4.9	15.2	66.4	30.2	90.7	(NA)	(NA)	5.8
1958	288	294	33	5.4	26.7	4.4	6.3	19.5	74.3	43.9	111.5			6.5
INDUSTRY 1081, METAL MINING SERVICES														
1982 ³	137	394	22	2.5	60.8	1.8	3.6	42.3	89.5	62.8	125.4	125.3	(X)	26.8
1977 ⁴	(NA)	270	42	3.3	51.5	2.7	5.9	41.3	111.6	64.8	158.4	158.4	(X)	17.7
1972 ⁵	(NA)	172	33	2.8	30.9	2.4	5.0	28.2	54.2	21.3	71.6	71.6	(X)	3.9
1967 ⁶	(NA)	148	34	2.6	19.1	2.4	4.5	16.3	33.6	17.2	48.3	48.3	(X)	2.3
1963	(NA)	83	17	2.2	13.9	1.9	4.0	11.5	24.7	10.7	32.4	32.4	(X)	3.0
1958	(NA)	95	23	2.2	12.1	2.0	4.3	10.6	22.9	10.6	32.4	32.4	(X)	1.3
INDUSTRY 1094, URANIUM-RADIA-M-VANADIUM ORES														
1982 ³	123	215	71	10.5	285.4	7.1	14.4	176.7	576.6	420.2	775.1	697.6	6 662.1	223.9
1977 ⁴	(NA)	225	66	12.0	203.2	9.6	20.0	155.2	431.6	435.0	614.5	545.4	13 363.2	252.1
1972 ⁵	(NA)	144	34	5.9	58.0	4.6	9.6	43.0	149.4	120.3	227.2	201.9	7 200.0	42.5
1967 ⁶	(NA)	188	34	5.4	40.5	4.1	6.5	28.9	142.1	116.6	216.2	182.6	5 500.0	40.5
1963	(NA)	335	51	6.7	45.2	5.1	11.3	34.2	190.8	151.7	326.4	244.7	6 383.0	15.9
1958 ⁷	(NA)	602	61	7.9	44.4	6.4	13.9	34.4	174.6	263.2	336.5	227.0	5 480.0	101.6
INDUSTRY 1092, MERCURY ORES AND 1099, METAL ORES, N.E.C.														
1982 ³	222	226	16	1.8	37.3	1.3	2.7	25.6	92.5	50.4	127.2	(D)	(X)	15.6
1977 ⁴	(NA)	150	14	1.5	24.2	1.1	2.2	14.4	70.6	33.9	96.9	(D)	(X)	7.9
1972 ⁵	(NA)	119	12	1.3	12.6	1.1	2.1	9.1	30.7	28.6	44.6	(D)	(X)	14.6
1967 ⁶	(NA)	107	19	1.9	13.5	1.6	3.2	10.7	32.7	21.1	48.9	(D)	(X)	4.9
1963	(NA)	62	12	1.5	9.2	1.3	2.5	7.4	19.2	12.6	28.7	28.1	(X)	3.1
1958 ⁷	(NA)	158	18	1.9	6.7	1.5	2.8	6.4	21.7	11.1	28.8	(D)	(X)	4.0

Note: For data prior to 1958, see 1963 Census of Mineral Industries, volume I, table 1 of industry chapter.

¹Value of gross shipments less value of crude minerals transferred to other establishments for preparation. For service industries, represents total receipts less value of resales.

²Represents thousand short tons.

³Beginning with 1967, data for single-unit establishments without paid employees were excluded from the census.

⁴Represents value of net shipments of primary products only.

⁵Represents gross shipments in long tons less shipments to treatment plants for bauxite and dried bauxite equivalent.

⁶Data for 1982 are not comparable to prior years. In 1982, service companies were requested to submit one report for all mining services performed in the United States. For such reports, receipts for services performed were requested by county. Establishment figures for 1982 represent sum of number of counties specified in each report.

⁷Excludes data for Alaska.

Table 2. Industry Statistics for Selected States and Type of Operation: 1982 and 1977

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

Industry, geographic area, and type of operation	1982											1977	
	Establishments during year		All employees		Production, development, and exploration workers			Value added by mining (million dollars)	Cost of supplies used, purchased machinery installed, etc. (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees ² (1,000)	Value added by mining (million dollars)
	E ¹	Total (number)	With 20 employees or more (number)	Number ² (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)						
INDUSTRY 1051, BAUXITE AND OTHER ALUMINUM ORES													
Geographic Area													
United States -----	-	8	4	.3	9.3	.2	.4	5.7	15.4	19.5	29.5	5.4	.4
Arkansas -----	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Type of Operation													
Producing establishments -----	-	6	4	.3	9.3	.2	.4	5.7	15.4	19.5	29.5	5.4	.4
Mines only -----	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Open pit -----	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
INDUSTRY 1061, FERROALLOY ORES, EXCEPT VANADIUM													
Geographic Area													
United States -----	-	69	16	4.7	149.8	3.0	5.7	88.1	145.8	169.2	205.5	109.5	6.4
Alaska -----	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
California -----	-	7	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Colorado -----	-	12	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Michigan -----	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Nevada -----	E2	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
New Mexico -----	E9	4	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Type of Operation													
Producing establishments -----	-	61	14	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Mines with preparation plants -----	-	6	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Underground -----	-	5	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Combination and other mining methods -----	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Undistributed ³ -----	E9	54	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.6
Nonproducing establishments -----	-	6	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
INDUSTRY 1081, METAL MINING SERVICES													
Geographic Area													
United States -----	E1	394	22	2.5	60.6	1.8	3.8	42.3	89.5	82.6	125.4	26.8	3.3
Alaska -----	-	7	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Arizona -----	-	27	2	.2	4.7	.2	.3	3.4	9.1	(D)	12.2	(D)	(D)
Colorado -----	E3	48	2	.3	8.4	.3	.6	6.6	5.6	3.6	6.1	BB	(D)
Idaho -----	-	14	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(Z)	1.4
Nevada -----	E3	54	5	.3	6.3	.2	.5	4.7	10.2	6.6	15.4	1.3	.2
New Mexico -----	-	23	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	21.2
Texas -----	E6	13	1	.1	2.1	.1	.2	1.6	4.5	2.5	6.3	.7	.1
Utah -----	E1	22	2	.1	3.3	.1	.2	1.9	4.6	2.5	6.7	.6	BB
INDUSTRY 1094, URANIUM-RADIUM-VANADIUM ORES													
Geographic Area													
United States -----	E1	215	71	10.5	285.4	7.1	14.4	178.7	578.8	420.2	775.1	223.9	12.0
Arkansas -----	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Colorado -----	E3	61	17	2.1	55.9	1.4	2.7	35.8	146.0	74.2	111.7	108.5	1.6
New Mexico -----	-	29	13	2.9	80.6	2.3	4.9	57.1	155.6	(D)	243.6	(D)	5.2
New York -----	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas -----	E2	22	6	1.4	35.5	.6	1.7	21.2	65.3	48.5	69.6	24.3	CC
Utah -----	-	27	5	.7	17.4	.5	1.0	12.3	13.6	45.6	51.6	7.6	.7
Washington -----	-	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wyoming -----	-	34	17	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Type of Operation													
Producing establishments -----	E1	162	55	9.2	248.6	6.1	12.2	152.2	519.6	386.2	775.1	130.9	10.3
Mines only -----	E5	103	19	2.6	64.9	2.1	4.1	51.4	149.0	129.6	184.9	93.6	EE
Underground -----	E5	101	17	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Mines with preparation plants -----	-	20	20	4.6	123.2	3.6	7.6	95.2	364.3	190.7	520.4	34.6	FF
Underground -----	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Open pit -----	-	10	10	1.6	43.5	1.3	2.5	32.4	129.3	80.5	185.4	24.4	EE
Combination and other mining methods -----	-	6	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Separately operated preparation plants -----	-	6	4	.4	10.1	.3	.5	5.7	6.5	65.7	69.7	2.5	BB
Undistributed ³ -----	-	31	12	1.6	50.4	-	-	-	-	-	-	.5	-
Nonproducing establishments -----	-	53	16	1.3	36.7	1.0	2.2	26.4	59.1	33.9	-	93.0	1.6

See footnotes at end of table.

Table 2. Industry Statistics for Selected States and Type of Operation: 1982 and 1977—Con.

(For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix)

Industry, geographic area, and type of operation	1982												1977	
	Establishments during year		All employees		Production, development, and exploration workers			Value added by mining (million dollars)	Cost of supplies used, purchased machinery installed, etc. (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees ² (1,000)	Value added by mining (million dollars)	
	E ¹	Total (number)	With 20 employees or more (number)	Number ² (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)							
INDUSTRY 1092, MERCURY ORES AND 1099, METAL ORES, N.E.C.														
Geographic Area														
United States -----	E4	228	18	1.8	37.3	1.3	2.7	25.8	92.5	50.4	127.2	15.8	1.5	70.8
California -----	E2	28	5	.4	8.8	.3	.8	6.2	24.4	18.7	37.8	3.3	AA	(D)
Colorado -----	E8	28	2	.2	5.3	.1	.3	2.2	8.1	2.5	7.5	1.1	(NA)	(NA)
Florida -----	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Nevada -----	E3	27	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Type of Operation														
Producing establishments -----	E3	209	18	1.8	35.4	1.3	2.8	24.8	90.6	48.9	127.2	12.3	1.5	71.0
Mines with preparation plants -----	-	8	5	.7	15.9	.5	1.0	11.0	48.3	30.5	72.0	4.7	1.2	63.8
Open pit -----	-	6	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Undistributed ³ -----	E9	199	11	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Nonproducing establishments ---	-	19	-	.1	2.0	.1	.1	1.2	1.9	1.6	-	3.4	(Z)	-.2

¹Some payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 percent or more.

²Data lines with less than 100 employees are not shown. Some statistics are withheld to avoid disclosing data for individual companies. If employment is 100 or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—100 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

³Includes data for separately operated auxiliary establishments which were not classified by type of operation.

Table 3a. Summary Statistics by Industry for Selected States: 1982

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

Item	Industry 1051, Bauxite— United States	Industry 1061, Ferroalloy Ores— United States	Industry 1081, Metal Mining Services			Industry 1094, Uranium-Radium-Vanadium Ores				Industry 1092, Mercury Ores and Industry 1099, Metal Ores, N.E.C.			
			United States	Colorado	Nevada	United States	Colorado	Texas	Utah	United States	California		
Establishments during year	number	8	69	394	48	54	215	61	22	27	228	.28	
With 0 to 19 employees	do	4	53	372	46	49	144	44	14	22	212	.23	
With 20 to 99 employees	do	3	7	17	1	5	39	9	4	2	13	.4	
With 100 employees or more	do	1	9	5	1	-	32	8	4	3	3	.1	
All employees:	Average for year	1,000	3	4.7	2.5	.3	.3	10.5	2.1	.4	1.8	.4	
	Payroll for year	mill. dol.	9.3	149.8	60.6	8.4	6.3	285.4	55.9	35.5	17.4	37.3	8.8
Production, development, and exploration workers:	Average for year	1,000	2	3.0	1.8	.3	.2	7.1	1.4	.8	.5	1.3	.3
	March	do	.2	4.1	1.9	.3	.2	8.8	1.5	.9	.6	1.4	.3
	May	do	.2	3.5	2.0	.3	.2	7.7	1.5	.8	.5	1.3	.3
	August	do	.2	3.4	1.9	.3	.2	8.4	1.4	.8	.5	1.3	.3
	November	do	.2	1.3	1.6	.2	.2	5.8	1.3	.7	.4	1.3	.3
Hours	millions	.4	5.7	3.8	.8	.5	14.4	2.7	1.7	1.0	2.7	.6	
January to March	do	.1	2.0	.9	.1	.1	4.4	.7	.5	.3	.7	.2	
April to June	do	.1	1.8	1.0	.1	.1	3.8	.7	.4	.2	.7	.2	
July to September	do	.1	1.2	1.1	.2	.1	3.3	.7	.4	.2	.6	.1	
October to December	do	.1	.7	.8	.1	.1	2.8	.6	.4	.2	.6	.2	
Wages	mill. dol.	5.7	68.1	42.3	6.6	4.7	178.7	35.8	21.2	12.3	25.8	6.2	
Supplemental labor costs not included in payroll	do	3.1	32.5	11.4	1.4	1.1	59.4	11.5	5.7	4.9	6.9	1.2	
Legally required expenditures, including Social Security contributions	do	.7	13.3	6.3	.8	.7	23.3	4.8	2.0	1.4	3.4	.8	
Payments for voluntary programs	do	2.4	19.2	5.1	.6	.4	36.2	6.6	3.7	3.4	3.5	.5	
Value added by mining	do	15.4	145.8	89.5	5.8	10.2	578.8	146.0	65.3	13.8	92.5	24.4	
Cost of supplies	do	19.5	189.2	62.6	3.8	6.6	420.2	74.2	46.5	45.8	50.4	16.7	
Supplies used, minerals received, and purchased machinery installed	do	8.5	110.6	50.9	3.0	5.0	298.3	55.5	33.4	38.4	33.1	11.5	
Resales	do	(D)	-	.1	(Z)	(Z)	(D)	-	(D)	(D)	-	-	
Purchased fuels consumed	do	3.2	10.0	5.7	.4	1.1	32.8	4.9	4.9	2.2	6.7	2.9	
Purchased electric energy:	Quantity	mill. kWh	17.9	539.0	40.1	.8	.7	1 018.2	124.9	88.2	82.1	127.9	30.7
	Cost	mill. dol.	.8	22.9	3.2	(Z)	(Z)	45.9	4.8	4.3	3.4	6.5	1.6
Electric energy generated less sold	mill. kWh	-	18.0	(D)	-	-	(D)	(D)	-	-	(D)	(D)	
Contract work	mill. dol.	(D)	25.7	2.6	.2	.5	(D)	9.2	(D)	1.8	(D)	.6	
Cost of purchased communication services	do	.1	.7	.4	.1	(Z)	1.8	.3	.2	(Z)	.2	(Z)	
Value of shipments and receipts	do	29.5	205.5	125.4	8.1	15.4	775.1	111.7	89.6	51.6	127.2	37.6	
Value of resales	do	(D)	-	.1	(Z)	(Z)	(D)	-	(D)	-	(D)	-	
Hours worked by production, development, and exploration workers	millions	.4	5.7	3.8	.6	.5	14.4	2.7	1.7	1.0	2.7	.6	
At mines	do	.3	4.2	(1)	(NA)	(NA)	8.3	1.4	1.0	.5	.6	(Z)	
Underground	do	-	3.2	(1)	(NA)	(NA)	4.0	.7	(Z)	.4	(Z)	-	
Open pit	do	.2	.3	(1)	(NA)	(NA)	1.7	.2	.8	-	.2	(Z)	
Surface, including mine shops and yards	do	.1	.7	(1)	(NA)	(NA)	2.6	.5	.4	.1	.4	(Z)	
At preparation plants	do	.1	1.0	(1)	(NA)	(NA)	3.3	.4	.2	.3	.5	.3	
Hours worked, n.s.k.	do	-	.6	(1)	(NA)	(NA)	2.8	.9	.5	.2	1.6	.2	
Hours worked on exploration and development (included above)	do	-	2.0	(1)	(NA)	(NA)	2.1	.6	.3	-	.1	(Z)	
Gross book value of depreciable assets (usually original cost) at beginning	mill. dol.	51.1	951.6	162.1	9.9	9.7	2 705.5	424.7	242.9	121.7	212.9	51.1	
Buildings and other structures, except land	do	4.6	100.9	22.3	2.8	.4	306.4	52.0	34.5	8.9	28.5	7.8	
Machinery and equipment	do	36.9	722.8	139.8	7.1	9.3	976.0	121.6	93.3	54.3	120.4	36.7	
Mineral exploration and development	do	-	110.3	-	-	-	1 149.2	189.6	79.0	40.3	48.5	3.3	
Mineral land and rights	do	9.6	17.8	-	-	-	273.9	61.8	36.1	18.2	17.8	3.4	
Capital expenditures during year (except land and mineral rights)	do	5.4	109.5	26.8	1.3	1.3	223.9	108.5	24.3	7.8	15.8	3.3	
New capital expenditures during year	do	5.3	52.3	24.8	1.2	1.1	108.7	71.1	9.2	3.9	10.9	2.7	
Buildings and other structures, except land	do	.9	10.3	1.4	(Z)	(Z)	68.9	63.5	2.4	.8	2.2	.6	
Machinery and equipment	do	4.4	42.0	23.4	1.1	1.1	39.8	7.7	6.8	3.3	8.7	2.1	
Used capital expenditures during year	do	.1	6.3	1.8	.1	.2	3.1	1.1	.2	(Z)	.9	.4	
Buildings and other structures, except land	do	-	.1	(Z)	-	-	.3	-	(Z)	-	.2	(Z)	
Machinery and equipment	do	.1	6.1	1.8	.1	.2	2.8	1.1	.2	(Z)	.7	.4	
Mineral exploration and development	do	-	50.9	-	-	-	112.2	36.3	14.6	3.9	3.9	.2	
Capitalized mineral land and rights	do	(Z)	.9	-	-	-	17.5	6.1	4.2	1.1	.3	(Z)	
Deductions from depreciable assets during year	do	3.4	12.5	8.5	.9	1.5	242.0	77.3	33.8	7.0	15.0	1.7	
Buildings and other structures, except land	do	(Z)	.2	.1	(Z)	(Z)	2.8	.1	.1	(Z)	.4	(Z)	
Machinery and equipment	do	1.5	12.2	8.4	.9	1.5	57.4	6.4	3.9	1.0	11.0	1.3	
Mineral exploration and development	do	-	.1	-	-	-	154.9	61.0	24.0	4.3	2.6	.3	
Mineral land and rights	do	1.8	(Z)	-	-	-	27.1	9.8	5.9	1.8	1.1	.1	
Depreciation and depletion charges for year	do	2.6	26.8	22.8	.8	.8	176.1	54.8	26.2	8.1	10.9	3.5	
Buildings and other structures, except land	do	.2	2.5	3.3	.2	(Z)	21.8	.9	8.7	.7	1.3	.5	
Machinery and equipment	do	2.2	22.1	19.5	.6	.8	55.5	6.8	9.0	4.6	7.1	2.6	
Mineral exploration and development	do	-	1.2	-	-	-	82.9	44.8	5.1	2.1	1.8	.2	
Mineral land and rights	do	.2	1.0	-	-	-	15.9	2.3	5.4	.7	.7	.1	
Gross book value of depreciable assets at end of year	do	53.1	1 049.7	180.3	10.3	9.8	2 704.9	462.0	237.6	123.6	214.0	52.7	
Buildings and other structures, except land	do	5.6	111.2	23.8	2.8	.4	373.0	115.3	38.8	9.5	30.6	8.3	
Machinery and equipment	do	39.8	758.7	156.8	7.5	9.2	961.1	124.0	96.4	56.7	118.9	37.8	
Mineral exploration and development	do	-	181.1	-	-	-	1 106.5	164.8	69.9	39.9	47.8	3.2	
Mineral land and rights	do	7.8	18.7	-	-	-	264.3	57.9	34.4	17.5	16.8	3.3	
Rental payments during year	do	.1	1.3	6.3	.9	.3	10.7	.7	.4	.5	.8	.1	
Buildings and other structures, except land	do	-	.2	1.3	.4	(Z)	3.2	.2	(Z)	.4	.2	(Z)	
Machinery and equipment	do	.1	1.2	5.0	.4	.3	7.5	.5	.3	.1	.6	.1	
Lease rents	do	.2	.1	.1	(Z)	-	3.3	1.3	.4	.4	2.7	2.6	
Expended mineral exploration, development, land, and rights	do	.1	124.6	.2	.2	-	60.6	7.9	6.6	6.2	5.4	.4	
Mineral exploration and development	do	.1	4.3	.2	.2	-	44.3	4.4	3.2	5.1	4.9	.4	
Mineral land and rights	do	-	120.3	(Z)	(Z)	-	16.2	3.5	3.4	1.1	.5	-	

¹Service establishments were requested to report hours worked by kind of work performed, rather than department. These hours worked in millions were as follows: exploration work, including geophysical and other exploratory surveying, 1.5; stripping overburden, (Z); mining minerals not for own account, .2; other work, .8; hours worked, n.s.k., 1.3.

Table 3b. Summary Statistics by Industry and Type of Operation: 1982

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

Item	Industry 1094, Uranium-Radium-Vanadium Ores								Industry 1092, Mercury Ores and Industry 1099, Metal Ores, N.E.C.		
	All estab- lish- ments	Producing establishments				Non- produ- cing estab- lish- ments	All estab- lish- ments	Producing estab- lish- ments			
		Total	Mines only	Total	Open pit			Total	Mines with prepara- tion plants		
Establishments during year	number	215	162	103	20	10	8	53	228	209	8
With 0 to 19 employees	do	144	107	84	-	-	4	37	212	183	3
With 20 to 99 employees	do	39	27	12	5	3	2	12	13	13	2
With 100 employees or more	do	32	28	7	15	7	2	4	3	3	3
All employees:											
Average for year	1,000	10.5	9.2	2.8	4.8	1.8	.4	1.3	1.8	1.8	.7
Payroll for year	mil. dol.	285.4	248.6	84.9	123.2	43.5	10.1	36.7	37.3	35.4	15.9
Production, development, and exploration workers:											
Average for year	1,000	7.1	8.1	2.1	3.8	1.3	.3	1.0	1.3	1.3	.5
March	do	6.8	7.5	2.3	4.9	1.5	.3	1.1	1.4	1.3	.5
May	do	7.7	8.8	2.3	4.0	1.4	.3	1.1	1.3	1.3	.5
August	do	8.4	5.5	2.0	3.2	1.2	.3	.9	1.3	1.3	.5
November	do	5.8	5.0	1.8	2.9	1.0	.3	.8	1.3	1.2	.4
Hours	millions	14.4	12.2	4.1	7.8	2.5	.5	2.2	2.7	2.8	1.0
January to March	do	4.4	3.6	1.1	2.6	.7	.1	.8	.7	.8	.3
April to June	do	3.8	3.3	1.1	2.0	.7	.1	.8	.7	.6	.3
July to September	do	3.3	2.7	1.0	1.8	.8	.1	.8	.8	.8	.2
October to December	do	2.8	2.4	.9	1.4	.5	.1	.4	.6	.8	.2
Wages	mil. dol.	178.7	152.2	51.4	95.2	32.4	5.7	28.4	25.8	24.8	11.0
Supplemental labor costs not included in payroll	do	59.4	50.0	13.5	33.8	11.7	2.7	9.4	8.9	8.5	3.7
Legally required expenditures, including Social Security contributions	do	23.3	19.8	8.3	12.7	3.4	.8	3.5	3.4	3.2	1.3
Payments for voluntary programs	do	36.2	30.2	7.2	21.2	8.3	1.9	8.0	3.5	3.3	2.3
Value added by mining	do	578.8	519.8	149.0	364.3	129.3	8.5	59.1	92.5	90.8	48.3
Cost of supplies	do	420.2	386.2	129.8	190.7	80.5	65.7	33.9	50.4	48.9	30.5
Supplies used, minerals received, and purchased machinery installed	do	298.3	282.2	87.7	134.2	58.0	60.3	18.1	33.1	32.4	18.1
Resales	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)	(D)	-	-
Purchased fuels consumed	do	32.8	29.1	4.4	22.6	12.3	2.1	3.8	6.7	6.6	5.2
Purchased electric energy:											
Quantity	mil. kWh	1 018.2	953.2	365.0	528.3	161.3	61.9	63.0	127.9	127.3	109.3
Cost	mil. dol.	45.9	42.8	14.5	25.5	8.4	2.8	3.3	8.5	8.5	5.8
Electric energy generated less sold	mil. kWh	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	-
Contract work	mil. dol.	(D)	(D)	(D)	(D)	(D)	.7	10.9	(D)	(D)	1.5
Cost of purchased communication services	do	1.8	1.5	.2	1.2	.5	.1	.3	.2	.2	.2
Value of shipments and receipts	do	775.1	775.1	184.9	520.4	185.4	69.7	-	127.2	127.2	72.0
Value of resales	do	(D)	(D)	(D)	(D)	(D)	-	(D)	(D)	-	-
Hours worked by production, development, and exploration workers	millions	14.4	12.2	4.1	7.8	2.5	.5	2.2	2.7	2.8	1.0
At mines	do	8.3	8.9	1.9	4.9	1.7	-	1.4	.8	.5	.5
Underground	do	4.0	3.8	1.5	2.1	-	-	.4	(Z)	(Z)	(Z)
Open pit	do	1.7	1.5	.2	1.4	1.1	-	.1	.2	.2	.2
Surface, including mine shops and yards	do	2.8	1.8	.3	1.5	.6	-	.9	.4	.3	.3
At preparation plants	do	3.3	3.2	-	2.8	.6	.5	.2	.5	.5	.5
Hours worked, n.s.k.	do	2.8	2.2	2.2	-	-	-	.8	1.8	1.5	-
Hours worked on exploration and development (included above)	do	2.1	.9	.5	.4	.1	-	1.2	.1	(Z)	(Z)
Gross book value of depreciable assets (usually original cost) at beginning of year	mil. dol.	2 705.5	2 224.9	868.4	1 158.8	497.7	199.7	480.5	212.9	179.8	114.9
Buildings and other structures, except land	do	306.4	288.1	17.4	221.9	100.0	48.8	18.3	28.5	27.5	18.8
Machinery and equipment	do	978.0	831.8	202.7	533.8	259.3	95.5	144.2	120.4	118.2	84.9
Mineral exploration and development	do	1 149.2	878.8	488.1	342.5	109.1	48.1	272.4	48.5	18.9	3.0
Mineral land and rights	do	273.9	228.3	180.2	58.8	29.3	9.2	45.8	17.8	17.0	8.3
Capital expenditures during year (except land and mineral rights)	do	223.9	130.9	93.6	34.8	24.4	2.5	93.0	15.8	12.3	4.7
New capital expenditures during year	do	108.7	40.2	18.4	19.3	18.8	2.5	68.5	10.9	10.7	4.5
Buildings and other structures, except land	do	68.9	3.7	.8	3.0	2.3	.1	65.2	2.2	2.2	.8
Machinery and equipment	do	39.8	36.5	17.8	18.3	14.5	2.4	3.3	8.7	8.5	3.7
Used capital expenditures during year	do	3.1	2.3	1.8	.8	.4	(Z)	.8	.9	.5	.2
Buildings and other structures, except land	do	.3	.3	-	.3	(Z)	(Z)	.2	.1	.1	.1
Machinery and equipment	do	2.8	2.0	1.8	.3	(Z)	(Z)	.8	.7	.4	.2
Mineral exploration and development	do	112.2	68.5	73.8	14.7	7.2	-	23.7	3.9	1.1	(Z)
Capitalized mineral land and rights	do	17.5	12.9	10.5	2.4	.4	-	4.8	.3	.2	(Z)
Deductions from depreciable assets during year	do	242.0	181.9	112.1	47.7	15.9	2.1	80.1	15.0	12.7	3.2
Buildings and other structures, except land	do	2.8	2.4	.9	1.3	.3	.2	.1	.4	.2	-
Machinery and equipment	do	57.4	36.2	25.8	8.8	1.3	1.8	21.2	11.0	10.1	2.9
Mineral exploration and development	do	154.9	108.8	69.0	37.8	14.3	-	48.1	2.8	1.8	(Z)
Mineral land and rights	do	27.1	18.4	18.4	-	-	-	10.7	1.1	.7	.3
Depreciation and depletion charges for year	do	178.1	124.0	53.0	68.0	35.9	5.0	52.1	10.9	10.1	6.8
Buildings and other structures, except land	do	21.8	18.5	2.7	15.2	7.7	.7	3.3	1.3	1.2	.9
Machinery and equipment	do	55.5	44.7	8.8	33.8	18.8	4.3	10.8	7.1	6.8	5.2
Mineral exploration and development	do	82.9	52.8	37.7	14.7	8.4	.1	30.3	1.8	1.5	.3
Mineral land and rights	do	15.9	8.3	8.0	2.3	1.1	-	7.8	.7	.7	.4
Gross book value of depreciable assets at end of year	do	2 704.9	2 206.9	860.8	1 148.2	506.5	200.1	496.0	214.0	179.5	116.5
Buildings and other structures, except land	do	373.0	289.8	17.1	223.8	102.1	48.8	83.4	30.8	29.8	19.4
Machinery and equipment	do	961.1	834.0	196.2	541.7	272.9	96.1	127.1	118.9	115.0	86.0
Mineral exploration and development	do	1 106.5	858.5	493.0	319.4	101.9	46.1	248.0	47.8	18.5	3.0
Mineral land and rights	do	264.3	224.7	154.3	81.2	29.8	9.2	39.5	18.8	18.4	8.1
Rental payments during year	do	10.7	5.1	.2	4.9	.7	(Z)	5.7	.8	.5	.5
Buildings and other structures, except land	do	3.2	2.8	.1	2.5	-	-	.7	.2	.1	.1
Machinery and equipment	do	7.5	2.5	.1	2.4	.7	(Z)	5.0	.8	.4	.4
Lease rents	do	3.3	.8	.2	.4	.3	(Z)	2.7	2.7	(Z)	(Z)
Expensed mineral exploration, development, land, and rights	do	80.8	43.2	11.4	31.8	22.7	-	17.4	5.4	3.3	.5
Mineral exploration and development	do	44.3	28.8	3.1	25.7	20.9	-	15.5	4.9	3.0	.1
Mineral land and rights	do	18.2	14.3	8.3	8.0	1.8	-	1.9	.5	.4	.4

Table 3c. Inventories by Industry: End of 1981 and 1982

[Million dollars. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

Item	Industry 1051, Bauxite and Other Aluminum Ores		Industry 1061, Ferroalloy Ores, Except Vanadium		Industry 1081, Metal Mining Services		Industry 1094, Uranium-Radium- Vanadium Ores		Industry 1092, Mercury Ores and 1099, Metal Ores, N.E.C.		
	End of 1981	End of 1982	End of 1981	End of 1982	End of 1981	End of 1982	End of 1981	End of 1982	End of 1981	End of 1982	
Total Inventories¹		(D)	(D)	125.7	137.6	12.0	12.5	404.2	359.0	31.2	47.1
Detail by method of valuation:											
Subject to LIFO costing ²		(D)	(D)	(D)	78.8	(D)	(D)	48.4	52.0	(D)	(D)
LIFO reserve		(D)	(D)	(D)	52.8	-	-	13.3	13.3	(D)	(D)
LIFO value		(D)	(D)	(D)	25.9	(D)	(D)	35.1	38.7	(D)	(D)
Not subject to LIFO costing		2.7	2.4	(D)	43.1	10.8	11.5	295.4	258.0	11.4	21.3
Valuation method not reported ³		-	-	15.0	15.6	(D)	(D)	60.3	49.0	(D)	(D)
Amount subject to LIFO reported without associated reserve and value ⁴		-	-	-	-	-	-	-	-	-	-
Detail by type of inventory:											
Mined or quarried products		(D)	(D)	69.4	80.8	(NA)	(NA)	324.4	290.4	24.8	40.1
Supplies, parts, fuels, etc.		.9	.8	56.3	56.7	(NA)	(NA)	79.8	68.5	6.4	7.0

¹Beginning in the 1982 economic censuses, all respondents were requested to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from the 1977 census in which respondents were permitted to value their inventories using any generally accepted accounting method.

²Only includes data reported by respondents who (a) indicated amount of inventories subject to LIFO cost, and (b) provided sufficient information to determine associated LIFO reserve and value figures.

³Includes data estimated for nonresponse and nonmail administrative records and data reported by respondents who provided total inventory figures without other information.

⁴Includes data reported by respondents who indicated their inventories were subject to LIFO cost but did not provide associated LIFO reserve and value figures.

Table 4. Industry Statistics by Employment Size of Establishment: 1982

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

Industry and employment size class	E ¹	Establishments during year (number)	All employees		Production, development, and exploration workers			Value added by mining (million dollars)	Cost of supplies used, purchased machinery installed, etc. (million dollars)	Value of shipments and receipts (million dollars)	Capital expendi- tures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
INDUSTRY 1051, BAUXITE AND OTHER ALUMINUM ORES											
Total	-	8	.3	9.3	.2	.4	5.7	15.4	19.5	29.5	5.4
Establishments during year with an average of—											
0 to 4 employees	-	1	.1	1.2	(Z)	.1	.4	2.4	1.9	4.2	.1
5 to 9 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
10 to 19 employees	-	2	(D)	8.0	.2	.4	5.3	13.0	17.5	25.3	5.2
20 to 49 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
50 to 99 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
INDUSTRY 1061, FERROALLOY ORES, EXCEPT VANADIUM											
Total	-	69	4.7	149.8	3.0	5.7	88.1	145.8	169.2	205.5	109.5
Establishments during year with an average of—											
0 to 4 employees	E9	40	.1	1.3	(Z)	.1	.8	6.6	5.5	6.4	4.5
5 to 9 employees	E8	10	.1	1.9	.1	.2	1.0	6.0	7.1	(D)	(D)
10 to 19 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees	-	5	4.6	146.6	2.9	5.5	86.3	133.2	163.7	191.9	105.0
50 to 99 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	36	.1	1.7	.1	.2	1.5	10.5	1.4	11.5	.4
INDUSTRY 1081, METAL MINING SERVICES											
Total	E1	394	2.5	60.8	1.8	3.8	42.3	89.5	82.6	125.4	26.8
Establishments during year with an average of—											
0 to 4 employees	E2	280	.3	7.8	.3	.6	5.9	17.6	8.7	23.8	2.4
5 to 9 employees	E2	52	.3	8.7	.2	.5	6.0	12.1	6.9	17.6	1.4
10 to 19 employees	E1	40	.5	12.7	.4	.8	8.7	21.4	11.5	30.1	2.8
20 to 49 employees	E1	16	.5	10.9	.4	.9	8.7	17.7	35.6	26.0	20.2
50 to 99 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	5	.7	20.6	.5	1.0	13.1	20.7	(D)	27.8	(D)
Covered by administrative records ²	E9	34	.1	.5	.1	.1	.5	1.2	.7	1.7	.2
INDUSTRY 1094, URANIUM-RADIUM-VANADIUM ORES											
Total	E1	215	10.5	285.4	7.1	14.4	178.7	578.8	420.2	775.1	223.9
Establishments during year with an average of—											
0 to 4 employees	E9	79	.1	2.9	.1	.2	2.2	7.6	2.8	6.2	4.2
5 to 9 employees	E8	29	.2	5.4	.1	.3	3.0	11.9	4.9	10.0	6.8
10 to 19 employees	E6	36	.5	14.7	.3	.5	6.6	19.8	11.6	18.5	12.7
20 to 49 employees	E1	22	.7	19.8	.4	.9	10.6	28.9	45.0	55.1	18.8
50 to 99 employees	E2	17	1.2	36.0	.8	1.5	20.1	49.2	30.1	65.0	14.3
100 to 249 employees	-	23	4.0	107.5	2.9	5.9	73.2	290.7	169.2	342.1	117.8
250 to 499 employees	E1	8	3.8	99.0	2.6	5.0	62.9	170.9	156.5	278.1	49.2
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	54	.2	2.8	.1	.3	2.4	12.6	4.6	10.3	6.9

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1982—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

Industry and employment size class	E ¹	Establishments during year (number)	All employees		Production, development, and exploration workers			Value added by mining (million dollars)	Cost of supplies used, purchased machinery installed, etc. (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
INDUSTRY 1092, MERCURY ORES AND 1099, METAL ORES, N.E.C.											
Total.....	E4	226	1.8	37.3	1.3	2.7	25.8	92.5	50.4	127.2	15.8
Establishments during year with an average of—											
0 to 4 employees.....	E9	166	.2	3.7	.2	.4	3.4	10.3	5.1	13.1	2.4
5 to 9 employees.....	E9	33	.2	3.8	.2	.3	3.0	8.4	3.1	9.7	1.8
10 to 19 employees.....	E5	13	.2	3.2	.1	.3	2.2	8.5	5.0	9.9	3.6
20 to 49 employees.....	E8	8	.2	6.2	.2	.3	3.9	11.0	5.1	14.4	1.8
50 to 99 employees.....	E5	5	.4	7.5	.3	.5	4.1	17.1	5.4	20.7	1.8
100 to 249 employees.....	-	2	.8	13.1	.4	.6	9.2	37.2	26.8	59.5	4.3
250 to 499 employees.....	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	94	.1	1.6	.1	.3	1.8	5.5	2.0	8.5	.9

Note: Data shown as a (D) are included in underscored figures above.

¹Some payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 percent or more.

²Some payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate data shown for these small establishments. Data are also included in respective size classes shown.

Table 5. Industry-Product Analysis—Summary of Industry Shipments and Receipts and Net Shipments of Primary Products: 1982 and 1977

[Million dollars. An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as resales or contract work. Columns A-E show this product pattern for an industry. Extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

SIC code	Industry and year	Value of shipments and receipts					Value of net shipments of primary products or services		
		Total	Primary products	Secondary products	Receipts for services	Products purchased and resold without further processing	Total produced in all industries	Produced in this industry	Produced in other industries
1051	Bauxite and other aluminum ores.....	1982..	29.5	(D)	(D)	(D)	(D)	(D)	(D)
		1977..	40.2	(D)	(D)	(D)	(D)	(D)	(D)
1061	Ferroalloy ores, except vanadium.....	1982..	205.5	203.5	1.9	(D)	(D)	(D)	(D)
		1977..	371.7	(D)	(D)	(D)	(D)	(D)	(D)
1081	Metal mining services.....	1982..	125.4	113.9	(D)	(D)	.1	118.1	113.9
		1977..	158.4	148.3	(D)	(D)	3.8	158.4	148.3
1094	Uranium-radium-vanadium ores.....	1982..	775.1	762.6	(D)	(D)	1685.9	(D)	4.2
		1977..	814.5	814.5	(Z)	(D)	1548.6	1545.4	3.2
1092 1099	Mercury ores and metallic ores, n.e.c.	1982..	127.2	(D)	-	(D)	127.7	124.6	3.1
		1977..	96.9	92.0	(D)	(D)	(D)	(D)	(D)

¹Represents gross shipments less minerals received for preparation.

Table 6. Products or Services for Selected States: 1982 and 1977

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

Product code	Geographic area and product	1982			1977		
		Quantity of production for all purposes	Product shipments		Quantity of production for all purposes	Product shipments	
			Quantity	Value (million dollars)		Quantity	Value (million dollars)
1051—	BAUXITE AND OTHER ALUMINUM ORES						
10511 00	United States						
10511 00	Bauxite and other aluminum ores	(X)	(X)	(D)	(X)	(X)	37.3
10512 00	Crude (undried) bauxite	658.2	1 015.4	13.0	(D)	(D)	(D)
10510 00	Prepared bauxite, dried, calcined, or activated	(D)	(D)	(D)	(D)	(D)	(D)
10510 00	Bauxite, n.s.k. ¹	(X)	(X)	-	(X)	(X)	-
1061—	FERROALLOY ORES, EXCEPT VANADIUM						
10611 2-	United States						
10611 51	Ferroalloy ores, except vanadium	(X)	(X)	331.6	(X)	(X)	526.8
10612 29	Crude manganese ores						
10610 00	Other crude ferroalloy ores such as chromium, molybdenum, nickel, and tungsten	(X)	(X)	53.6	(X)	(X)	104.5
10612 31	Ferroalloy concentrates (except molybdenum and vanadium), such as chromium, manganese, nickel, and tungsten						
10610 00	Ferroalloy ores, except vanadium, n.s.k. ¹	81.1	60.1	278.0	83.7	85.4	422.3
Service code	Geographic area and service	1982 receipts for services (million dollars)			1977 receipts for services (million dollars)		
1081—	METAL MINING SERVICES						
10811 00	United States						
10811 00	Metal mining services				116.1		158.4
10810 11	Exploration work, including geophysical and other exploratory surveying				24.1		19.4
10810 12	Stripping overburden				(D)		(D)
10810 13	Prospect and test drilling				37.0		70.2
10810 14	Open pit metal mining ores not for own account				(D)		5.7
10810 15	Drilling, other than prospect and test drilling, including blasting				(D)		3.1
10810 17	Sinking mine shafts and driving mine tunnels				(D)		19.7
10810 19	Other metal mining services				12.2		(D)
10810 00	Metal mining services, n.s.k. ¹				20.3		20.6
1081—	Arizona						
10810 11	Metal mining services				11.2		(NA)
10810 11	Exploration work, including geophysical and other exploratory surveying				2.2		(NA)
1081—	Colorado						
10810 11	Metal mining services				8.8		(NA)
10810 11	Exploration work, including geophysical and other exploratory surveying				1.2		(NA)
1081—	Nevada						
10810 11	Metal mining services				15.5		(NA)
10810 11	Exploration work, including geophysical and other exploratory surveying				4.4		(NA)
10810 00	Metal mining services, n.s.k. ¹				5.1		(NA)
1081—	Texas						
10810 13	Metal mining services				6.0		(NA)
10810 13	Prospect and test drilling				1.7		(NA)
1081—	Utah						
10810 11	Metal mining services				6.0		(NA)
10810 11	Exploration work, including geophysical and other exploratory surveying				.7		(NA)
Product code	Geographic area and product	1982			1977		
		Quantity of production for all purposes	Product shipments		Quantity of production for all purposes	Product shipments	
			Quantity	Value (million dollars)		Quantity	Value (million dollars)
1092—	MERCURY ORES						
10921 00	United States						
10921 00	Mercury ores	(X)	(X)	(D)	(X)	(X)	(NA)
10923 00	Crude mercury ores	(D)	(D)	(D)	(D)	(X)	(X)
10920 00	Mercury metal	(D)	(D)	(D)	(X)	(D)	(D)
10920 00	Mercury, n.s.k. ¹	(X)	(X)	-	(X)	(X)	(NA)
1094—	URANIUM-RADIUM-VANADIUM ORES						
10941 —	United States						
10941 —	Uranium-radium-vanadium ores	(X)	(X)	783.2	(X)	(X)	617.7
10941 01	Crude uranium-vanadium ores	6.7	1.7	86.9	13.4	2.5	72.7
10941 03	Crude uranium-vanadium ores shipped	(X)	1.7	86.9	(X)	2.5	72.7
10941 05	From underground operations	do					
10942 —	From open pit operations	2.8	(X)	(X)	5.6	(X)	(X)
10942 —	Uranium-vanadium concentrates	3.8	(X)	(X)	7.7	(X)	(X)
10942 01	Uranium concentrates	19.0	16.6	583.7	*33.8	*28.9	*509.9
10942 02	Vanadium concentrates	9.0	6.4	539.2	*33.6	*26.9	*509.9
10940 00	Uranium-radium-vanadium ores, n.s.k. ¹	10.0	6.4	44.4			
10940 00		(X)	(X)	92.6	(X)	(X)	35.0

See footnotes at end of table.

Table 6. Products or Services for Selected States: 1982 and 1977—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix.]

Product code	Geographic area and product	1982			1977			
		Quantity of production for all purposes	Product shipments	Quantity	Value (million dollars)	Quantity of production for all purposes	Product shipments	
URANIUM-RADIUM-VANADIUM ORES—Con.								
New Mexico								
1094- --	Uranium-radium-vanadium ores	(X)	(X)	243.8	(NA)	(NA)	(NA)	
10941 --	Crude uranium-vanadium ores	1.7	.8	33.5	(NA)	(NA)	(NA)	
10941 01	Crude uranium-vanadium ores shipped	(X)	.8	33.5	(NA)	(NA)	(NA)	
10941 03	From underground operations	do..	1.7	(X)	(X)	(NA)	(NA)	
10942 --	Uranium-vanadium concentrates	1,000 s. tons..	(D)	4.0	198.8	(NA)	(NA)	
10940 00	Uranium-radium-vanadium ores, n.s.k ¹	(X)	(X)	11.7	(NA)	(NA)	(NA)	
MISCELLANEOUS METAL ORES, N.E.C.								
United States								
1099- --	Metal ores, n.e.c.	(X)	(X)	121.2	(X)	(X)	182.7	
10991 --	Titanium ores	(X)	(X)	24.2	(X)	(X)	(D)	
10991 11	Crude titanium ores (ilmenite and rutile)	1,000 s. tons..	5 482.9	-	11 697.7	(D)	(D)	
10991 21	Titanium concentrates (ilmenite and rutile)	do..	245.5	249.5	623.0	544.2	32.1	
10999 --	Miscellaneous metal ores, such as antimony, beryllium, rare-earth metals, and tin	do..	(S)	(S)	44.8	670.3	354.2	
10999 11	Miscellaneous crude metal ores, such as antimony, beryllium, rare-earth metals and tin	do..	(D)	(D)	(D)	369.5	60.3	
10999 21	Miscellaneous metal concentrates, such as antimony, beryllium, rare-earth metals, and tin	do..	(D)	(D)	(D)	300.8	45.4	
10990 00	Metal ores, n.s.k ¹	(X)	(X)	452.2	(X)	(X)	9.3	

¹Includes value for establishments that did not report detailed data and estimates for small companies (estimates were made from administrative-record data rather than collected from respondents).

²Includes slurry and low-grade concentrates shipped to mills for further upgrading.

³Includes value for mercury ores.

⁴Includes value for platinum - group metals.

Table 7a. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1982 and 1977

[Includes quantity and cost of supplies consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

Supply code	Industry and supply consumed	1982		1977		
		Quantity	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)	
INDUSTRY 1051, BAUXITE AND OTHER ALUMINUM ORES						
Selected supplies used, minerals received for preparation, and purchased machinery installed						
	(X)	8.5	(X)		7.8	
Minerals or ores for preparation:						
100097	Other ores and concentrates received for treatment	mil. s. tons..	(D)	(D)	(D)	
105191	Beauxite (crude or dried) received for concentration	1,000 l. tons..	(D)	(D)	(D)	
105191	Beauxite (crude or dried) produced and concentrated at same establishment	do..	(X)	(NA)	(X)	
353020	Purchased machinery installed, including mobile loading and transportation equipment	(X)	(D)			
353030	Parts and attachments (except those listed elsewhere) for construction, mining, and conveying equipment; and for preparation machinery	(X)	(D)	(X)	(D)	
Supplies used:						
280110	Industrial chemicals (chemical reagents, calcium chloride, fatty acids, etc.), except explosive materials and blasting accessories	(X)	(D)	(X)	(D)	
289211	Explosive materials, except ammonium nitrate	mil. lb..	(Z)	(D)	(D)	
289212	Ammonium nitrate	do..	(D)	(D)	(D)	
289214	Blasting accessories	(X)	(D)	(X)	(D)	
290000	Lubricating oils and greases, including hydraulic oils	(X)	(D)	(X)	(D)	
301100	Tires and inner tubes	(X)	(D)	(X)	(D)	
330900	Steel castings, steel forgings, and metallic grinding media	(X)	(D)	(X)	(D)	
331201	Steel mill shapes and forms (such as plates, sheets, roof bolts, bars, rails, wheels, pipe, tubing, wire products, and structural shapes)	(X)	(D)	(X)	(D)	
353310	Drill bits and reamers	(X)	(D)	(X)	(D)	
970099	All other supplies ²	(X)	2.1	(X)	1.6	
974000	Undistributed—minerals, purchased machinery, parts, attachments, and supplies used ³	(X)	-	(X)	(D)	
INDUSTRY 1061, FERROALLOY ORES, EXCEPT VANADIUM						
Selected supplies used, minerals received for preparation, and purchased machinery installed						
	(X)	110.6	(X)		158.5	
Minerals or ores for preparation:						
100093	Crude ore received for concentration	mil. l. tons..	(D)	(D)	(D)	
t00097	Other ores and concentrates received for treatment	mil. s. tons..	(D)	(D)	(D)	
t00097	Other ores and concentrates for treatment produced and treated at same establishment	do..	(D)	(X)	(NA)	
353020	Purchased machinery installed, including mobile loading and transportation equipment	(X)	(D)			
353030	Parts and attachments (except those listed elsewhere) for construction, mining, and conveying equipment; and for preparation machinery	(X)	(D)	(X)	55.4	

See footnotes at end of table.

Table 7a. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1982 and 1977—Con.

[Includes quantity and cost of supplies consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

Supply code	Industry and supply consumed	1982		1977		
		Quantity	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)	
INDUSTRY 1081, FERROALLOY ORES, EXCEPT VANADIUM—Con.						
Selected supplies used, minerals received for preparation, and purchased machinery installed—Con.						
145000	Supplies used:					
280110	Bentonite and other clay nonmetallic minerals	(X)	(D)	(X)	(1)	
289211	Industrial chemicals (chemical reagents, calcium chloride, fatty acids, etc.), except explosive materials and blasting accessories	(X)	5.9	(X)	(1)	
289212	Explosive materials, except ammonium nitrate	(X)	4.0	(X)	7.1	
289214	Blasting accessories	(X)	.7	(X)	(1)	
290000	Lubricating oils and greases, including hydraulic oils	(X)	1.2	(X)	(1)	
301100	Tires and inner tubes	(X)	(D)	(X)	(1)	
330900	Steel castings, steel forgings, and metallic grinding media	(X)	(D)	(X)	(1)	
331201	Steel mill shapes and forms (such as plates, sheets, roof bolts, bars, rails, wheels, pipe, tubing, wire products, and structural shapes)	(X)	(D)	(X)	5.3	
353310	Drill bits and reamers	(X)	1.0	(X)	(1)	
970099	All other supplies ²	(X)	(D)	(X)	60.0	
974000	Undistributed—minerals, purchased machinery, parts, attachments, and supplies used ³	(X)	2.6	(X)	1.1	
INDUSTRY 1081, METAL MINING SERVICES						
Selected supplies used, minerals received for preparation, and purchased machinery installed						
353020	Purchased machinery installed, including mobile loading and transportation equipment	(X)	16.2			
353030	Parts and attachments (except those listed elsewhere) for construction, mining, and conveying equipment; and for preparation machinery	(X)	3.1	(X)	17.1	
289212	Supplies used:					
289216	Ammonium nitrate	(D)	(D)	2.0	.2	
331201	Explosive materials (except ammonium nitrate) and blasting accessories	(X)	(D)	(X)	(1)	
970099	Steel mill shapes and forms (such as plates, sheets, roof bolts, bars, rails, wheels, pipe, tubing, wire products, and structural shapes)	(X)	3.1	(X)	1.6	
	All other supplies ²	(X)	11.3	(X)	20.4	
974000	Undistributed—minerals, purchased machinery, parts, attachments, and supplies used ³	(X)	(D)	(X)	12.5	
INDUSTRY 1094, URANIUM-RADIUM-VANADIUM ORES						
Selected supplies used, minerals received for preparation, and purchased machinery installed						
100097	Minerals or ores for preparation:					
100097	Other ores and concentrates received for treatment	mil. s. tons	1.6	77.3	42.6	
	Other ores and concentrates for treatment produced and treated at same establishment	do	5.3	(X)	7.9	
353020	Purchased machinery installed, including mobile loading and transportation equipment	(X)	28.6			
353030	Parts and attachments (except those listed elsewhere) for construction, mining, and conveying equipment; and for preparation machinery	(X)	57.0	(X)	104.6	
280110	Supplies used:					
289211	Industrial chemicals (chemical reagents, calcium chloride, fatty acids, etc.), except explosive materials and blasting accessories	(X)	50.0	(X)	(1)	
289212	Explosive materials, except ammonium nitrate	mil. lb	8.9	2.7	11.3	
289214	Ammonium nitrate	do	3.9	.5	23.7	
290000	Blasting accessories	(X)	2.1	(X)	2.1	
301100	Lubricating oils and greases, including hydraulic oils	(X)	1.8	(X)	(1)	
330900	Tires and inner tubes	(X)	2.0	(X)	(1)	
331201	Steel castings, steel forgings, and metallic grinding media	(X)	1.3	(X)	(1)	
353310	Steel mill shapes and forms (such as plates, sheets, roof bolts, bars, rails, wheels, pipe, tubing, wire products, and structural shapes)	(X)	6.6	(X)	22.4	
970099	Drill bits and reamers	(X)	.9	(X)	(1)	
	All other supplies ²	(X)	35.5	(X)	85.0	
974000	Undistributed—minerals, purchased machinery, parts, attachments, and supplies used ³	(X)	29.8	(X)	7.5	
INDUSTRY 1092, MERCURY ORES AND 1099, METAL ORES, N.E.C.						
Selected supplies used, minerals received for preparation, and purchased machinery installed						
100097	Minerals or ores for preparation:					
100097	Other ores and concentrates received for treatment	mil. s. tons	(D)	(D)	(D)	
	Other ores and concentrates for treatment produced and treated at same establishment	do	6.0	(X)	12.3	
353020	Purchased machinery installed, including mobile loading and transportation equipment	(X)	4.6			
353030	Parts and attachments (except those listed elsewhere) for construction, mining, and conveying equipment; and for preparation machinery	(X)	(D)	(X)	3.9	
280110	Supplies used:					
289211	Industrial chemicals (chemical reagents, calcium chloride, fatty acids, etc.), except explosive materials and blasting accessories	(X)	(D)	(X)	(1)	
289212	Explosive materials, except ammonium nitrate	mil. lb	.1	(D)	(D)	
289214	Ammonium nitrate	do	(D)	(D)	(D)	
290000	Blasting accessories	(X)	(D)	(X)	(D)	
301100	Lubricating oils and greases, including hydraulic oils	(X)	(D)	(X)	(D)	
330900	Tires and inner tubes	(X)	(D)	(X)	(D)	
331201	Steel castings, steel forgings, and metallic grinding media	(X)	(D)	(X)	(D)	
353310	Steel mill shapes and forms (such as plates, sheets, roof bolts, bars, rails, wheels, pipe, tubing, wire products, and structural shapes)	(X)	(D)	(X)	3.4	
970099	Drill bits and reamers	(X)	(D)	(X)	(1)	
	All other supplies ²	(X)	6.5	(X)	8.6	
974000	Undistributed—minerals, purchased machinery, parts, attachments, and supplies used ³	(X)	12.2	(X)	(D)	

See footnotes at end of table.

Table 7a. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1982 and 1977—Con.

¹Cost for this supply is shown separately in 1982. In 1977, this category was included in all other supplies.

²A number of supplies included in the all other supplies category in 1977 are now shown separately.

³Represents cost for establishments that did not report detailed data, including establishments that were not mailed a form.

⁴Includes ferrophosphorus and vanadium liquor received for preparation.

Table 7b. Fuels Consumed by Type, 1982 and 1977, and End-of-Year Fuel Stocks, 1982

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

Fuel code	Industry and fuel consumed	1982 consumption		1982 end-of-year stocks ¹ (quantity)	1977 consumption	
		Quantity	Delivered cost (million dollars)		Quantity	Delivered cost (million dollars)
INDUSTRY 1051, BAUXITE AND OTHER ALUMINUM ORES						
Fuels used		(X)	3.2	(X)	(X)	1.4
Fuel oil:						
291141	Distillate (light) grade numbers 1, 2, 4, and light diesel fuel	1,000 bbl.	9.5	.4	(X)	(X)
291151	Residual (heavy) grade numbers 5 and 6 and heavy diesel fuel	do	(D)	.7	(X)	(X)
131157	Gas—natural, manufactured, and mixed	bil. cu. ft.	(D)	(D)	(X)	(X)
291111	Gasoline	mil. gal.	(D)	(D)	(X)	(X)
960016	Other fuels—liquefied petroleum gas, coke, wood, and other		(X)	(X)	(X)	(X)
977000	Undistributed fuels ²		(X)	(X)	(X)	(X)
INDUSTRY 1061, FERROALLOY ORES, EXCEPT VANADIUM						
Fuels used		(X)	10.0	(X)	(X)	6.7
Coal—bituminous, lignite, and anthracite	1,000 s. tons	(D)	(D)	(D)	(D)	(D)
Fuel oil:						
291141	Distillate (light) grade numbers 1, 2, 4, and light diesel fuel	1,000 bbl.	52.0	2.3	12.6	144.9
291151	Residual (heavy) grade numbers 5 and 6 and heavy diesel fuel	do	(D)	(D)	(D)	(D)
131157	Gas—natural, manufactured, and mixed	bil. cu. ft.	(D)	(D)	(X)	(X)
291111	Gasoline	mil. gal.	(D)	.5	(X)	(X)
960018	Other fuels—liquefied petroleum gas, coke, wood, and other		(X)	(D)	(X)	(D)
977000	Undistributed fuels ²		(X)	.2	(X)	(X)
INDUSTRY 1081, METAL MINING SERVICES						
Fuels used		(X)	5.7	(X)	(X)	5.7
Fuel oil:						
291141	Distillate (light) grade numbers 1, 2, 4, and light diesel fuel	1,000 bbl.	47.1	2.1	3.3	65.4
291151	Residual (heavy) grade numbers 5 and 6 and heavy diesel fuel	do	4.6	.1	.4	(D)
131157	Gas—natural, manufactured, and mixed	bil. cu. ft.	(Z)	(Z)	(D)	(D)
291111	Gasoline	mil. gal.	(D)	.5	(X)	(X)
960016	Other fuels—liquefied petroleum gas, coke, wood, and other		(X)	(D)	(X)	(D)
977000	Undistributed fuels ²		(X)	(D)	(X)	(X)
INDUSTRY 1094, URANIUM-RADIUM-VANADIUM ORES						
Fuels used		(X)	32.8	(X)	(X)	20.3
Coal—bituminous, lignite, and anthracite	1,000 s. tons	(D)	(D)	(D)	(D)	(D)
Fuel oil:						
291141	Distillate (light) grade numbers 1, 2, 4, and light diesel fuel	1,000 bbl.	246.1	10.6	19.5	631.3
291151	Residual (heavy) grade numbers 5 and 6 and heavy diesel fuel	do	144.7	5.6	10.8	10.9
131157	Gas—natural, manufactured, and mixed	bil. cu. ft.	2.6	9.8	(D)	5.8
291111	Gasoline	mil. gal.	2.0	2.4	(D)	2.0
960018	Other fuels—liquefied petroleum gas, coke, wood, and other		(X)	(D)	(X)	.5
977000	Undistributed fuels ²		(X)	2.4	(X)	1.1
INDUSTRY 1092, MERCURY ORES AND 1099, METAL ORES, N.E.C.						
Fuels used		(X)	6.7	(X)	(X)	3.8
Coal—bituminous, lignite, and anthracite	1,000 s. tons	(D)	(D)	(D)	(D)	(D)
Fuel oil:						
291141	Distillate (light) grade numbers 1, 2, 4, and light diesel fuel	1,000 bbl.	89.0	3.7	3.9	178.6
291151	Residual (heavy) grade numbers 5 and 6 and heavy diesel fuel	do	(D)	(D)	(D)	2.6
131157	Gas—natural, manufactured, and mixed	bil. cu. ft.	(D)	(D)	(D)	(D)
291111	Gasoline	mil. gal.	(D)	.3	(D)	(D)
960016	Other fuels—liquefied petroleum gas, coke, wood, and other		(X)	1.4	(X)	(X)
977000	Undistributed fuels ²		(X)	(D)	(X)	(D)

¹Fuel stocks were collected for the first time in 1982.

²Represents cost for establishments that did not report detailed data, including establishments that were not mailed a form.

APPENDIX

Explanation of Terms

Employment and related items—The report forms requested separate information on production, development, and exploration workers as of a payroll period for each quarter of the year and for other employees as of the payroll period which included the 12th of March.

All employees—This item includes all full-time and part-time employees on the payrolls of mining establishments for any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Also included are employees working for miners paid on a per ton, car, or yard basis. Excluded are employees at the mine but on the payroll of another employer (such as employees of contractors) and employees at company stores, boarding houses, bunk houses, and recreational centers. Also excluded are members of the Armed Forces and pensioners carried on the active rolls but not working during the period. Officers of corporations are included as employees, but proprietors and partners of unincorporated firms are excluded.

Production, development, and exploration workers—This category includes employees (up through the working supervisor level) engaged in manual work: using tools, operating machines, hauling materials, loading and hauling products out of the mine in mine cars or trucks, and caring for mines, plants, mills, shops, or yards. Included are exploration work, mine development, storage, shipping, maintenance, repair, janitorial, and guard services, auxiliary production for use at establishments (such as power plant), record keeping, and other services closely associated with these production and development operations at the establishment covered by the report. Gang and straw bosses and supervisors who performed manual labor are included, as are employees paid on either a time- or piece-rate basis. Also included are miners paid on a per ton, car, or yard basis and persons engaged by them and paid out of the total amount received by these miners. In addition, other employees at the establishment but not on its payroll are included if paid directly through its own employees, such as superintendents and supervisors. The payments received by these types of employees are included as part of the establishments payroll. Supervisory employees above the working supervisor level are excluded from this category.

All other employees—Nonproduction personnel at the establishment include those engaged in the following activities: Supervision above the working supervisor level, sales, highway trucking (by employees not entering mines or pits), advertising, credit; collection, clerical and routine office functions, executive, purchasing, financing, legal,

personnel (including cafeteria and medical), professional (such as engineers and geologists), and technical activities. Also included are employees on the payroll of the establishment engaged in the construction of major additions or alterations to the plant and who are utilized as a separate work force. (Workers engaged in regular maintenance and repair operations are not included here but are classified as production, development, and exploration workers.)

Separately operated auxiliary establishments employees—This item includes employment at separate central administrative offices or auxiliary units of multiestablishment companies and at those offices or units servicing more than one establishment during the payroll period which included March 12. Establishments were classified on the basis of the industry or principal industry served. Employees at an office located at or near the mining establishment are usually included in the mine report.

All employees, average for year—The 1982 census report form requested employment figures for production, development, and exploration workers for four selected pay periods (mid-March, May, August, and November). For all other employees, only a mid-March figure was requested. The annual average is an average of the four monthly figures for production, development, and exploration workers plus the March figure for all other employees. This approach was used to simplify the schedule format and lighten the reporting burden of respondents, since it was found that the average of these selected pay periods closely approximates, for most industries, the average employment for the year that would be obtained from 12 monthly pay periods.

Payroll—This term includes all forms of compensation such as salaries, wages, commissions, payments received on a ton, car, or yard basis, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation; it excludes payments to the proprietor or partners, if an unincorporated concern, and payments to members of Armed Forces and pensioners carried on the active payroll of mining establishments. Also excluded are royalty payments to unions and costs of smelting, explosives, fuses, electric cap lamps, and mine supplies used in production and development work but charged to employees and deducted from their wages. As in the case of employment and establishment figures, the annual payrolls of separate auxiliary establishments of multiestablishment companies are included in the totals for individual industries and for States. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production, development, and exploration worker hours—This item represents all hours that production, development, and exploration workers worked, both on active days during which there was production or development work and on inactive days when only security guards, inspectors, repairpersons, and other maintenance persons were on duty. It includes all hours worked or paid for at the mining operations, except hours paid for vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Hours of working proprietors or partners are excluded.

Supplemental labor costs—This item represents employer's cost for fringe benefits not included in payrolls.

Legally required expenditures, including social security contributions—This cost includes employer contributions for all programs required under Federal and State legislation, such as Federal Old Age and Survivors' Insurance, unemployment compensation, and worker's compensation. Also included are legally required State temporary disability payments.

Payments for voluntary programs—Included in this cost are payments resulting from union negotiated contracts and all employer payments of insurance premiums on hospital and medical plans, life insurance premiums, and premiums on supplementary accident and sickness insurance. For programs supported by joint employer-employee contributions, only the employer payments are included. Also included are payments or allocations on all pension plans regardless of methods of administration, supplemental unemployment compensation plans, welfare plans, stock purchase plans in which the employer payment is not subject to withholding tax, and deferred profit sharing plans.

Value added by mining—This measure of mining activity is derived by subtracting the cost of supplies used, minerals received for preparation, purchased machinery installed, purchased fuel, purchased electricity, and contract work from the sum of the value of shipments (mining products plus receipts for services rendered) and total capital expenditures. This statistic avoids the duplication in value of shipments and receipts which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

Cost of supplies used, purchased machinery installed, etc.—Besides supplies used and purchased machinery installed, this cost includes fuels and electric energy used and contract work done by others for each establishment. It includes charges to both the current and capital accounts. It also includes the cost of items used during 1982 whether they were purchased, withdrawn from inventories, or received from other establishments of the company. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year.

Freight charges and other direct charges incurred by the establishment in acquiring the item are included. Companies whose records did not show actual amounts used were asked to approximate use by adding purchases (or receipts) during the year to opening inventory and subtracting closing inventory. Separate figures were requested for: (1) selected supplies used, minerals received for preparation, and purchased machinery installed; (2) electric energy purchased; (3) purchased fuels used for heat, power, or the generation of electricity; (4) contract work done by others; and (5) products bought and resold in the same condition. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, are included in this item, as are supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. Excluded are such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or such overhead costs as depreciation charges, rent, interest, and royalties.

Selected supplies used, minerals prepared, etc.—In addition to the total cost of supplies used, purchased machinery installed, etc., which every establishment was required to report, information was also collected on the consumption of major supplies used in mining. These inquiries were restricted to supplies which were important parts of the cost of production, exploration, and development of a particular industry and for which cost information was available. Table 7a contains information on specific supplies consumed. On report forms for almost all mineral industries except the contract services and the crude petroleum and natural gas industries, a uniform inquiry was included on minerals prepared at the reported establishments. Figures were obtained on crude minerals mined at the establishment (quantity), received from other establishments of the company or purchased from others (quantity and cost), and received for preparation on a custom or toll basis (quantity and estimated value). Establishments consuming less than a specified amount (usually \$25,000) were not required to report the cost of a supply. For small establishments for which administrative records were used, the cost of supplies was included in "not specified by kind." (See the section on "Summary of Findings" for the importance of administrative records to an industry.)

Value of shipments and receipts and net shipments—The amounts shown as value of shipments and receipts for each industry (tables 1-5), and for individual products or classes of products (table 6), are the net selling values, f.o.b. mine or plant after discounts and allowances, excluding freight charges. "Shipments" include all products physically shipped from the establishment during 1982, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in 1982. Prepared material or concentrates include preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, companies were requested to report the estimated value, not merely the cost of producing the items. Multiestablishment companies were asked to report value information for each establishment as if it were a separate economic unit. They were instructed to report the value of all products

transferred to other plants of the company at their full economic value, i.e., to include, in addition to direct cost of production, a reasonable proportion of company overhead and profits.

For all establishments classified in an industry, value of shipments and receipts includes: (1) the value of all "primary" products of the industry, (2) the value of "secondary" products which are primary to other industries, (3) the receipts for contract work done for others, except custom milling, and (4) the value of products purchased and resold without further processing. Receipts for custom milling are not included to avoid duplication with the value of custom milled ores included in an industry's primary and secondary products.

Some duplication exists in industry and industry group totals because of the inclusion of materials transferred from one establishment to another for mineral preparation or resale. When this duplication is significant, figures generally are shown for both gross and net shipments. The net shipments are obtained by subtracting the value of crude minerals transferred to other establishments for preparation and the value of resales from the gross shipments.

Shipments of Individual products—In the 1982 Census of Mineral Industries, information was collected on output for about 200 individual mineral products. In general, the shipments figures of the 1982, 1977, and 1972 Minerals Censuses were confined to separate totals for each crude and each prepared mineral. When shipments were significant, separate figures were also obtained on crude minerals going to preparation plants and those going to consumers.

Figures were collected on both quantity and value of shipments. Shipments include commercial shipments and transfers of products to other operations of the same company. For products that are used to a significant extent within the same establishment for power or heat, and for minerals mined and prepared in the same establishment, total production figures or separate data on production for such uses were collected. Typically, production was also collected for products for which there was usually significant differences between total production and total shipments because of stock changes.

For service industries, the amount received or due for services performed during 1982 was collected as a measure of output. For mine operators who also perform services, the amount received for such services was added to the total value of products shipped to determine total value of shipments and receipts for each establishment.

Table 8 provides the national and State total shipments figures from all industries for each of the products primary to the industry covered.

Capital expenditures—This item covers expenditures made during the year for development and exploration of mineral properties, for new construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment. They are the type for which depreciation, depletion, or Office of Minerals Exploration accounts are ordinarily maintained. Capital expenditures during 1982 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done on contract, as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions

to capacity. Excluded from these expenditures were costs of maintenance and repairs charged as current operating expense and expenditures for land and mineral rights.

Whenever applicable, separate figures were provided for expenditures for development and exploration of mineral property, construction of preparation plants and other construction, new machinery and equipment, used plant, and used equipment acquired from others.

Gross value of depreciable assets—Assets data were collected on buildings, other structures, machinery, equipment, capitalized mineral exploration and development, and mineral land and rights for which depreciation, amortization, or depletion accounts are maintained. The values shown represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation cost). The data were collected for the beginning and end of the year. Assets at the beginning of the year plus new and used capital expenditures minus retirements should equal assets at the end of the year. For new construction or other improvement projects in progress but not completed by the end of the year, the cumulative capital expenditures were included in the beginning- and end-of-year assets figures.

Retirements—This item represents the gross value of depreciable assets sold, retired, scrapped, destroyed, abandoned, etc., during 1982. The values shown are the acquisition costs of the retired assets. This item includes the value of assets (at acquisition cost rather than current market value) transferred to other establishments of the same company.

Depreciation—This item shows the reduction in value of depreciable assets brought about through use, gradual obsolescence, or the effect of the elements (decay or corrosion) during the year. Included are charges against assets acquired or completed during the year.

Rental payments—This item consists of rental payments made to other companies for use of such depreciable assets as buildings, other structures, machinery, and equipment. It does not include payments made to the parent company or another subsidiary of the parent company for the use of buildings and equipment owned by the parent company or its subsidiary. The value of such company-owned assets is included in the gross value of depreciable assets.

Current account expenditures—This item includes all expenses for mineral properties, exploration, and development charged to current accounts. This includes all supplies, machinery, equipment, parts, fuels, power, etc., used for development or exploration and charged to current operating expenses. Also included are royalty payments, acquisition costs for mineral land and rights which were not capitalized, and the cost of maintenance and repairs associated with exploration or development activity and charged to current accounts.

Inventories—This item includes inventories of mined or quarried products, and supplies, parts, fuels, etc., at the beginning and end of the year. Included as mined or quarried products are stockpiles of products ready for shipment and stocks of raw products awaiting treatment or beneficiation. Beginning in the

1982 Census of Mineral Industries, all respondents were requested to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from the 1977 census in which respondents were permitted to value their inventories using any generally accepted accounting method. The inventory figures for 1982, therefore, will not be comparable to prior census data because of the change in reporting instructions.

Fuels and electric energy used—This item includes the quantity and cost of fuels and electric energy used in mining. For most industries, separate quantity and cost figures are shown for purchased coal, distillate fuel oil, residual fuel oil, gas, gasoline, and electric energy, and a cost figure is shown for "other fuels" (see

table 7b). Data were also obtained on the quantity of fuels and electric energy produced and consumed at the same establishment. These data are shown for coal, crude petroleum, and natural gas used at the producing establishments for heat and power, and for electric energy generated and used at the same mining operations. In addition, figures for stocks of purchased fuels on hand at the end of the year were reported for the first time in 1982. Every establishment was required to report the total quantity of unexpended fuel it had on hand, including emergency reserves, at the end of the year. Excluded are fuels to be used as feedstocks or raw materials. For electric energy, the quantity generated and used is approximated by subtracting the quantity of electric energy sold from the total quantity generated (excluding generating station use).

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Geographic area series—9 reports

A separate report for each of the 50 States provides statistics for individual States for each of the 42 mineral industries, by type of operation and by county. Data are shown on shipments, value added by mining, hours worked, capital expenditures, cost of

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